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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1983

Ap 6/1:D36/5/983/Pt. 9
ORIGINAL
COMPLETED

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES

NINETY-SEVENTH CONGRESS
SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE

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Printed for the use of the Committee on Appropriations

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1983

DEPOT MAINTENANCE

THURSDAY, JUNE 10, 1982.

WITNESSES

DR. RICHARD D. WEBSTER, DEPUTY ASSISTANT SECRETARY OF DEFENSE (LOGISTICS AND MATERIEL MANAGEMENT), OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (MANPOWER, RESERVE AFFAIRS, AND LOGISTICS)

JOSEPH G. TURKE, DIRECTOR FOR MAINTENANCE POLICY, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (MANPOWER, RESERVE AFFAIRS, AND LOGISTICS)

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BRIG. GEN. EDWARD HONOR, DIRECTOR OF RESOURCES AND MANAGEMENT, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS, HEADQUARTERS, DEPARTMENT OF THE ARMY

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CHARLES D. McELHANON, CHIEF, MODIFICATION AND O&M PROGRAMS DIVISION, DIRECTORATE OF LOGISTICS PLANS AND PROGRAMS, DEPUTY CHIEF OF STAFF, LOGISTICS AND ENGINEERING

DEPOT MAINTENANCE ACTIVITIES

[CLERK'S NOTE: The Committee cancelled the June 10, 1982, hearing on the Department of Defense's depot maintenance activities. Printed in this record is an exchange of letters between Chairman Joseph P. Addabbo and Secretary of Defense Caspar Weinberger. In addition, the Department of Defense has provided a written response to each of the prepared questions which would have formed the basis of a hearing. These questions and answers, along with the prepared statements of the witnesses, are being printed in this volume to make a formal record on depot maintenance activities.]

[The material follows:]

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KEITH F. MAINLAND

TELEPHONE:
(202) 225-2771

June 10, 1982

Honorable Caspar W. Weinberger
Secretary of Defense
Washington, D. C. 20301

Dear Mr. Secretary:

The Committee had planned to conduct a hearing on June 10, 1982, on the Department's $10.4 billion request for depot maintenance operations during fiscal year 1983. I have, however, cancelled this hearing since I have learned that certain personnel in the Department have been misleading you and the Congress, and had planned to continue this deception at today's hearing, with regard to the status of depot maintenance backlog.

In February, you published an Annual Report to the Congress, a press release, and an Operation and Maintenance overview, all of which indicated that there is no depot maintenance backlog included in your fiscal year 1983 budget. These assurances were also included in the prepared statements by DOD witnesses submitted for the June 10th hearing. I realize that you must depend on information provided by your subordinates. It appears, however, that all of these statements were known by certain DOD personnel to be at variance with the facts at the time they were made.

In a memorandum to you dated March 17, 1982, the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics) states that 'Navy depot maintenance backlogs...are at variance with the President's budget and with Navy congressional testimony...we have recently sent to the Congress a Force Readiness Report that projects Air Force and Navy aircraft mission capable rates based on no depot maintenance funding deficiencies during FY 83-87." In a memorandum dated January 7, 1982 to the Military Service Chiefs by the Assistant Secretary of Defense (MRA&L), repeated reference is made to "unfunded deficiencies", "now-projected deficiencies", etc. This was over a month prior to submission of the FY 1983 budget and its repeated assurances that depot maintenance was fully funded, that there were no funding deficiencies, and no backlog.

As a result of these misleading statements and the clear intent of certain DOD witnesses to continue the charade as evidenced by their prepared statements,

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I felt compelled to cancel the hearing. Until the Committee receives budgetary documents accurately portraying your depot maintenance requirements, the validity of the entire $10.4 billion request must remain in question.

As a first step in removing this doubt, it is requested that answers be provided expeditiously in writing to the attached questions. The accuracy of the answers received to these questions will serve to guide the Committee on what further action it will take on your budget request.

Sincerely,

Joseph P. Addabbo
Chairman
Subcommittee on Defense

Enclosure - (1)

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ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

MANPOWER,
RESERVE AFFAIRS
AND LOGISTICS

17 MAR 1983

MEMORANDUM FOR SECRETARY OF DEFENSE

SUBJECT: Follow-up to Secretary of Defense Performance Review on "Readiness and Sustainability" -- INFORMATION MEMORANDUM

At the January 6 performance review on readiness and sustainability you were briefed on the preliminary estimates of readiness-related funding deficiencies that still remained in the FY 83-87 program. After much discussion about the accuracy of the data presented (see Tab A for a copy of the controversial slide), you directed that I get together with the Services to validate and resolve any differences on these readiness deficiencies.

In response to your request, I formed an ad hoc group with Service and OSD representatives to work this problem. A copy of my tasker to the Service Chiefs is at Tab B. The principal result of this working group is summarized at Tab C in an updated table of readiness-related funding deficiencies. You should note that Navy depot maintenance backlogs displayed in this table are at variance with the President's Budget and with Navy Congressional testimony. Additionally, there are two items in this updated table that are not endorsed by the Services. These are the Navy aircraft spares shortage for FY 84 and the funding to fill critical readiness shortages of Army combat equipment.

The official OSD Comptroller position (approved by DepSecDef), and consequently the official Navy position, is that there are no depot maintenance backlogs in FY 83. The President's Budget reflects this position. The $191M FY 83 backlog for Navy aircraft depot maintenance shown in Tab C is the result of requirements that the Comptroller did not allow during the budget review ($82M), plus requirements that have emerged since the budget submission ($109M). If Navy does not correct this shortage as well as those projected for the outyears, we could potentially see a degradation of Navy's upward trend in mission capable (MC) rates. Similarly, the Air Force's outyear backlogs for depot maintenance result because OSD did not restore all of the FY 83-87 funding previously deleted by PBD 0197069. When DepSecDef approved the Air Force reclama to PBD 0197069, OSD restored the FY 83 funding but failed to restore the funding in the outyears (FY 84-87). If these outyear backlogs are not eliminated, we can expect a

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degradation in MC rates for the Air Force. [redacted] changes noted in the charts at Tab D. The Navy feels that these changes are pessimistic.

The Navy aircraft spares procurement shortfall of $453M in FY 84 includes $289M that the Navy does not recognize as a funding shortfall in FY 84. The Navy agrees that these additional spares are required now but chooses to fund them in FY 85-86. While Tab C displays this $289M deficiency in FY 84, the Navy decision to fund this requirement in the out-years is consistent with the recent program/budget decisions that deferred this procurement because of affordability.

Another critical readiness shortage lies in the amount of combat and support equipment in the hands of Army units. The $8.6B funding shortage noted at Tab C was part of our original performance review briefing; however, I omitted it from my presentation when time ran short. While the Army recognizes a significant shortage of equipment on hand, they have not yet endorsed the above OSD estimate of the magnitude of the deficiency. We are continuing to refine these estimates of the additional resources above the January '82 FYDP necessary to meet the impending Defense Guidance provisions for Army equipment readiness. Additional funding strictly for modernization is not addressed in these totals.

We need to eliminate the OPTEMPO readiness deficiencies at Tab C to improve personnel readiness through increased combat proficiency training without degrading materiel readiness. The almost $2B shortage now projected for FY 83-87 is primarily for fuel and consumable spare parts.

One additional readiness-related problem, which is not quantifiable at this time, is the adequacy of the stock fund obligational authority to build the necessary spare parts inventories to support required operating tempos. The Defense Guidance provides a programming mechanism to address this problem beginning in FY 84 by direct appropriations to augment the stock fund. The FY 83 budget added $280M to address this problem, but the Services have indicated that shortfalls still exist.

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[redacted] that the potential readiness problem is only the tip of the iceberg. The FY 84-87 problem amounts to $14B over the January '82 FYDP at fiscal guidance is shrinking! I will keep you informed on the FY 83 problem as it emerges; we may be able to fix any critical FY 83 deficiencies through reprogramming. The outyear problem will be addressed in the upcoming program review.

Larry Korb

Lawrence J. Korb
Assistant Secretary of Defense
(Manpower, Reserve Affairs & Logistics)

Coordination: See attached.

Attachments

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In summary, you can see that the potential readiness problem in FY 83 is only the tip of the iceberg. The FY 84-87 readiness problem amounts to $14B over the January '82 FYDP at the same time that the FY 84-88 fiscal guidance is shrinking! I will keep you informed on the FY 83 problem as it emerges; we may be able to fix any critical FY 83 deficiencies through reprogramming. The outyear problem will be adressed in the upcoming program review.

Coordination:

Patrick M. Roddy
Major General, GS
Director, Program Analysis
and Evaluation

J. Metcalf III
Director, General
Planning & Programming
Division

William J. Campbell
William J. Campbell
Major General, USAF
Director of Programs and Evaluation
DCS/Programs and Resources

Attachments

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PRELIMINARY SERVICE ESTIMATES OF READINESS-RELATED FUNDING DEFICIENCIES

($M)

	83	84	85	86	87
Navy					
Aircraft Depot Maint [a]					
Components	0	300	300	400	600
Engines	0	38	21	36	34
Air Frames	12	40			
	12	378	321	436	634
Aircraft Spares Proc	115	100	50	50	50
Ship Overhaul	0	0	0	0	0
Ship Optempo	205	288	164	177	192
Air Optempo	56	60	16	17	0
Army					
Depot Maint	53	170	44	0	0
Spares Proc	11	232	273	317	353
Air Optempo	51	72	84	95	109
Air Force					
Optempo	45	58	58	51	49

[a] Reflects Dep Sec Def decision to increase Navy aircraft and ship depot maintenance funding in FY '83 by $465 M.

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

MANPOWER,
RESERVE AFFAIRS
AND LOGISTICS

7 JAN 1982

MEMORANDUM FOR GENERAL MEYER, CHIEF OF STAFF, ARMY
ADMIRAL HAYWARD, CHIEF OF NAVAL OPERATIONS
GENERAL MATHIS, VICE CHIEF OF STAFF, AIR FORCE

SUBJECT: Secretary of Defense Performance Review on "Readiness and Sustainability" Follow-Up

I think we all agree after this morning's Performance Review that we need to get our staffs together to develop an agreed set of figures on materiel readiness funding programmed, unfunded deficiencies, and projected materiel readiness, with and without any now-projected deficiencies corrected.

I have asked Charles Groover, my Deputy for Program Integration, to head an adhoc group with the appropriate OSD and Service representatives to work this problem. He has designated Sal Culosi to oversee directly the necessary work. Please identify points of contact from both the logistics requirements and program/budget elements of your staff to Mr. Groover's office (x79103) by COB January 8.

I look forward to your cooperation in helping us acquire the best current information on materiel-readiness-related funding requirements, and your collaboration with us in making the best possible estimates of the impact of funding on projected materiel readiness.

[illegible]
[illegible]
[illegible]

OASD(MRA&L)PI/CGroover/csf/79103/6Jan82

MRA&L Record
Signer
PI Cmbk
PI/FR Info

Readiness-Related Funding Deficiencies

	$M					
	FY 83	FY 84	FY 85	FY 86	FY 87	FY 83-87
Army						
Depot Maintenance	0	62	19	33	47	161
Air OPTEMPO	0	63	0	0	0	63
Army Equip on Hand[a]	0	1818	2046	2275	2503	8642
Total Army	0	1943	2065	2308	2550	8866
Navy						
A/C Depot Maint[b]	191	351	392	482	627	2043
A/C Spares Proc	0	453	(252)	135	-	336
Ship Spares Proc	12	123	111	118	33	397
Air OPTEMPO	128	124	84	72	64	472
Ship OPTEMPO	58	100	43	44	45	290
Total Navy	389	1151	378	851	769	3538
Air Force						
Depot Maintenance	0	142	151	159	168	620
OPTEMPO[c]	0	59	84	417	556	1116
Total Air Force	0	201	235	576	724	1736
Total DoD	389	3295	2678	3735	4043	14140

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[a] Army and OSD are continuing to refine these preliminary OSD estimates of the additional resources above the January '82 FYDP that are necessary to meet the CY '82 Defense Guidance provisions for Army equipment readiness. Additional funding strictly for modernization are not addressed in these totals.

[b] Includes depot maintenance deficiencies for only components, engines and airframes.

[c] Preliminary estimates of mostly fuel and consumable spares for increased OPTEMPO for strategic forces. They do not include other support costs such as increased acccessions, maintenance training and PCS. Other considerations ranging from strategic force changes to determining better crew ratios for the KC-135, would cause significant changes to the OPTEMPO requirements, particularly beyond FY 85.

Navy Depot Maintenance Budget (POM 84-88)

	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988
Airframe						
Requirement	379.5					
FYDP Funding	341.9					
POM 84 Delta	-					
Total Funding	341.9					
Unfunded Requirement	37.6					
Engines						
Requirement	223.5					
FYDP Funding	187.5					
POM 84 Delta	-					
Total Funding	187.5					
Unfunded Requirement	36.0					
Components/ Secondary Items						
Requirement	935.6					
FYDP Funding	828.6					
POM 84 Delta	-					
Total Funding	828.6					
Unfunded Requirement	107.0					
Modification Installation						
Requirement	313.8					
FYDP Funding	211.0					
POM 84 Delta	-					
Total Funding	211.0					
Unfunded Requirement	102.8					
Maintenance Support						
Requirement	64.6					
FYDP Funding	54.4					
POM 84 Delta	-					
Total Funding	54.4					
Unfunded Requirement	10.2					
Total Program						
Requirement	1917.0					
FYDP Funding	1623.4					
POM 84 Delta	-					
Total Funding	1623.4					
Unfunded Requirement	293.6					

(Clerk's note: Classified material deleted.)

JUL 12 RECD

THE SECRETARY OF DEFENSE
WASHINGTON, THE DISTRICT OF COLUMBIA

9 JUL 1982

Honorable Joseph P. Addabbo
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This is a partial response to your letter of June 10, 1982 concerning the Department's $10.4 billion request for depot maintenance operations during Fiscal Year 1983.

Let me assure you at the outset that there is no intent to mislead the Congress, particularly your committee, which in the past has been very supportive of our requirements. I believe that some misunderstandings have arisen because of apparently conflicting data in your possession.

First, let me point out that the $10.4 billion request fully funds validated depot maintenance operations requirements as they were known when final decisions were made on the budget to be submitted to the Congress. Service requests that could not be validated after careful examination during the budget review process were not included.

Managing Defense Department resources is a year-round task and requires not only monitoring the current year but also the budget year. It was for this reason that an internal review was made earlier this year of the depot maintenance program. As the March 17, 1982 memorandum in your possession states, that review gave some indication that if current trends continue, a funding shortfall might develop in FY 1983. I would caution, however, that the projections shown in the March 17, 1982 memorandum were not subject to the same careful review given to Service requests in the budget review process and are not, in our opinion, sufficiently validated to warrant action outside the normal cycle. As the ASD(MRA&L) stated in his memorandum to me, he plans to maintain surveillance on the FY 1983 program as it emerges.

If subsequent reviews of our FY 1983 depot maintenance funding requirements confirm a substantial shortfall we will initiate appropriate action including consideration of reprogramming so that readiness is not seriously impaired.

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I am attaching Dr. Richard Webster's specific answers to the first three questions enclosed with your letter. His staff is developing answers to the remaining 116 pages of questions and we will provide them as soon as practical.

I trust that I have allayed your concerns.

Sincerely,

Answers to Questions #1, 2, 3 in June 10, 1982 Letter from Chairman, Subcommittee on Defense, House Appropriations Committee

In a memorandum dated March 17, 1982, the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics admits to Secretary Weinberger that "Navy depot maintenance backlogs ... are at variance with the President's budget and with Navy congressional testimony."

1. If Mr. Korb's memo to Secretary Weinberger is correct, the Navy is misleading the Congress with the budget the Committee is reviewing here today. Dr. Webster, you work for Mr. Korb. Is your boss wrong in his memorandum of March 17, 1982 or is the Navy wrong in their testimony before the Congress?

Answer:

1. There is no inconsistency between the assessment embodied in Dr. Korb's March 17 memo to Secretary Weinberger and the Navy's testimony (per RAdm Martini's prepared statement) for the HAC Defense Subcommittee. The key point in RAdm Martini's testimony is the passage on page 8: "The aviation depot maintenance budget data for FY 83 reflects full funding of Navy airframe, engine, and component rework requirements which were validated during the DoD budget review process." (emphasis added). Dr. Korb's memo to Secretary Weinberger acknowledged that the best information available to him at that time (March 17) projected a potential backlog of $191M for end-FY 83. That $191M had two components: (a) $82M that represented a disagreement between the Navy and the OSD-Comptroller over estimated requirements (Note that RAdm Martini's statement refers to "requirements that were validated during the budget review process"; the OSD-Comptroller did not "validate" that requirement.) and (b) $109M of new maintenance requirements that the Navy identified after the FY 83 depot maintenance budget request was developed in the spring, revised in the summer, and submitted to OSD in September 1981. (RAdm Martini's testimony addresses the depot maintenance budget requirements as known and submitted to OSD in September 1981.) In sum, neither the Dr. Korb memo nor RAdm Martini's prepared statement nor, for that matter, Dr. Webster's statement are "wrong." It is true that, as noted on page 1 of Dr. Webster's statement, "... we attempted to fully fund depot maintenance requirements in the FY 83 budget." It is also true that, as page 8 of RAdm Martini's statement says, "The aviation depot maintenance budget data for FY 83 reflects full funding of Navy airframe, engine, and component rework requirements which were validated during the DoD budget review process." These requirements obviously had to be the requirements as known and submitted

to OSD in September 1981. Dr. Korb's March 17 memo to Secretary Weinberger accurately reflects that more recent information then available to him indicated that if the Navy view was accepted in their $82M disagreement with the OSD-Comptroller over the originally-stated Navy requirements, and if the latest, even higher Navy estimate of requirements that had emerged too late to influence finalization of the FY 83 budget request is valid, then the FY 83 Navy depot maintenance budget request could be expected to leave a $191M backlog at end-FY 83.

The misunderstanding stems from the fact that the process of developing a DoD budget request is a long, complex process. Depot maintenance requirements for the budget must be estimated a year-and-a-half in advance -- and submitted to OSD over a year in advance -- of the beginning of the fiscal year during which the maintenance work will be done. Depot maintenance requirements depend on a combination of many variables, most of which are impossible to predict in advance with precision. Thus it is not surprising that our estimates of specific requirements change over time. However, unfortunately, the mechanical complexity of the budget preparation is such that numbers have to be finalized several weeks before the budget is submitted to the Congress. As we move through time and better information becomes available, the revised estimates of requirements are often somewhat higher than the estimates reflected in the (much earlier) formal budget submission. This fact makes it extremely important that the Congress not exacerbate an unavoidable problem still further by making reductions during their appropriations process.

2. On page 2 of Mr. Korb's letter, he states that "we have recently sent to the Congress a Force Readiness Report that projects Air Force and Navy aircraft mission capable rates based on no depot maintenance funding deficiencies during FY 83-87. If the deficiencies currently projected for FY 83-87 are not fixed, we could expect to see the mission capable rate change." As Dr. Korb points out the Department of Defense is telling the Congress that mission capable rates will improve over the next several years to some extent because there will be no depot maintenance funding deficiencies. However, the truth appears to be substantially different from what the Congress is being told. For example, an attachment to Mr. Korb's memo shows that over the fiscal years 1983 to 1987 time period, depot maintenance backlog will exist in the amount of $161 million for the Army, $2.0 billion for the Navy and $620 million for the Air Force. If DoD is wrong that the fiscal year 83 budget contains no depot maintenance backlog, if it is wrong that there will continue to be no backlog through the Five-Year plan, and if it is wrong on page after page of

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mission capable rates listed in the Force Readiness Report, how can you expect this committee to stand up on the floor of the house and defend a $10 billion depot maintenance appropriation?

Answer:

2. The problem of outyear Mission Capable (MC) rate projections is an inevitable extension of the problem addressed in my answer to Question 1 -- that is the problem of estimating depot maintenance funding requirements precisely, several years in advance of when the work will be done. In answering Question 1 I emphasized the problem of estimating the depot maintenance funding required in the upcoming budget year; obviously, estimating the funding requirements another four years into the future is even more difficult and uncertain. The accuracy of our long-term MC projections at any point in time cannot be any more reliable than our ability to project funding requirements for depot maintenance (and the other support functions that determine MC rates). In short, it is not a matter of "the truth" being withheld from Congress; rather it is a matter of two different projections of a very complex process being made several months apart, with the latter estimate being based on later (presumably more accurate) information that emerged too late to be reflected in the President's budget submission to the Congress. As we move through successive budget cycles we will adjust our plans and budget requests to satisfy the best available estimate of required depot maintenance funding. As to how we can expect the Committee to "...defend an $10 billion depot maintenance appropriations", I would hope that the foregoing explanations would demonstrate that, if anything, our depot maintenance budget request is likely to be a slightly optimistic estimate of the funds needed to improve and protect the readiness of our weapons systems and equipment. Thus, it is even more important than ever that the HAC vigorously and successfully defend the full request on the floor of the House.

3. In another memo dated January 7, 1982 from Mr. Korb to the Chiefs of the military services, he states that "I think we all agree after this morning's Performance Review that we need to get our staffs together to develop an agreed set of figures on materiel readiness funding programmed, unfunded deficiencies, and projected materiel readiness, with and without any now-projected deficiencies corrected." The fiscal year 1983 budget was not formally given to the Congress until February 8. It appears that over a month before the budget was submitted purportedly containing a zero backlog in depot maintenance, the Department fully knew that this was not true. Is there any other conclusion that

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can be drawn except that the Department made a decision to consciously mislead the Congress as to what its depot maintenance request for fiscal year 1983 would accomplish?

Answer:

3. The misunderstanding here stems from the previously discussed lengthy process required to prepare a DoD budget request for the Congress. Although the budget was not submitted to Congress until February 8, the President and OMB had made their final decisions and the process of printing the budget had started back in December 1981. Furthermore, those budget decisions had to be made on the basis of the budget requests (and supporting documentation) the Military Departments had submitted to OSD in September. It is a practical impossibility to continually revise the numerous details of the September budget request as new information may emerge during the OSD budget review. In this case, new information on Navy depot maintenance requirements emerged too late to be fully validated and to influence the formal budget preparation. There was absolutely no intention to mislead the Congress about the FY 83 depot maintenance budget request!

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Department of Defense

Presentation to the Committee on Appropriations

Defense Subcommittee

Budget Estimates Fiscal Year 1980

Subject: Depot Maintenance Activities

Statement of: Dr. Richard D. Webster
Deputy Assistant Secretary of Defense
(Logistics and Materiel Management)
Office of the Assistant Secretary of Defense
(Manpower, Reserve Affairs and Logistics)

Not for Publication Until
Release by the Committee
on Appropriations, House
of Representatives

BIOGRAPHICAL SKETCH

OF

DR. RICHARD D. WEBSTER

Dr. Richard D. Webster is Deputy Assistant Secretary of Defense, Logistics and Material Management, Manpower Reserve Affairs and Logistics, Washington, D. C.

Dr. Webster earned a Bachelor of Science degree in Industrial Engineering and a Master's and Doctor's degrees in Business Administration. In addition, he has completed graduate studies in National Security Management.

He served with the U. S. Army Corps of Engineers as a platoon leader, assistant battalion operations officer, and battalion operations officer for the 65th Engineering Combat Battalion in Korea. He was awarded the Bronze Star during the Korean action.

Dr. Webster attended college on a Westinghouse Science Talent Search Scholarship. After receiving his Bachelor's degree, he was employed by Westinghouse in the Corporate graduate student program. Subsequently, he had both professional and managerial experience in Engineering, Manufacturing, Business Systems, Finance, and Logistics. He also served on the corporate staff as Staff Assistant to the Vice President of Manufacturing. He was Executive Assistant to the Vice President, Westinghouse Defense Group when he joined the Department of Defense in July, 1981.

He has lectured on the subjects of strategic planning, cost improvement, and industrial management.

He has lectured at Virginia Polytechnic Institute, Newark College of Engineering, University of Pittsburgh, and the Carnegie Institute of Technology. In his capacity as a lecturer and consultant, Dr. Webster has visited Canada, Mexico, Argentina, Europe and the Middle East, as well as many locations within the United States.

He is the author of numerous articles and papers which have appeared in magazines such as Machine Design, Defense Management Journal, the Society of Logistics Engineers Spectrum and the Westinghouse Logistics Direction.

Dr. Webster is a registered Professional Engineer and a Certified Professional Logistician. He has been elected a Fellow of the Society of Logistics Engineers (SOLE), and served as Director, Treasurer, and Vice President of the Society. The Society presented him with the National Inventory Management Award.

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He was group chairman and committee chairman for The National Security Industrial Association (NSIA) and served as advisor in logistics management and logistics research to the Department of Defense.

Dr. Webster was awarded a Department of Defense citation for outstanding service in the area of International Logistics. He was the 1981 recipient of the NSIA Greer Award, given to the nation's outstanding industrial logistics executive.

Dr. Webster is active in both church and local community associations. He has worked for the Salvation Army, Boy Scouts, American Cancer Society, and Kiwanis.

He is married to the former Jeanne Helbing. They have two sons, Edward and Robert.

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I appreciate the opportunity to appear before this Committee to discuss the Department of Defense program for depot maintenance.

Depot maintenance in the DoD is important for two reasons. First, depot maintenance has a major impact on readiness of our weapon systems. This is accomplished by repairing and overhauling complete weapon systems, and also by restoring to serviceable condition failed components returned from units. Second, depot maintenance is important in reducing the cost of supporting our weapon systems. The cost of overhauling a component is typically 15 to 20 percent of the cost of procuring a new item. In addition, repair time is normally significantly less than new procurement time -- a factor which can be critical in time of mobilization. For these reasons we attempted to fully fund depot maintenance requirements in the FY 1983 budget.

The FY 1983 depot maintenance program includes $4.2 billion for aircraft maintenance; $3.7 billion for ship maintenance; $400 million for combat vehicle maintenance, and $2.1 billion for other equipment maintenance. Thus the total FY 1983 depot maintenance program is $10.4 billion.

The depot maintenance program will be accomplished with a combination of contract and organic facilities. Typically 25 to 30 percent of the workload is by contract; however, this figure may be higher when major modification workloads are contracted. The remaining 75 percent is accomplished in-house at 30 major industrial type facilities (Army-8, Air Force-6, Navy-14, Marine Corps-2), and several smaller depot facilities such as Navy ship repair facilities. The 30 major facilities employ about 160,000 civilians and a small number of military personnel. The largest single segment of the DoD organic depot capability is the eight Navy shipyards which employ some 69,000 personnel. Where increased efficiency can be achieved without adversely impairing the quality of support, the Services seek to take advantage of each other's capabilities. Currently, interservice depot maintenance support is about $200 million annually.

In addition to the repair and overhaul programs, depot maintenance activities (organic facilities, equipment and personnel as well as contractors) accomplish the modernization programs for DoD weapons systems. This is a significant workload amounting to $2.0 billion in FY 1983 and must be considered in planning for resources to accomplish it.

Our first objective in management of depot maintenance is to assure that we have depot maintenance facilities with enough capability for mobilization. Once we have the right capability we then size as economically as possible for peacetime operations.

In line with our objectives we have worked jointly with the Services over the past several months on a review of what needs to be done to improve both the mobilization capability and operating efficiency of depot maintenance for

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aeronautical systems. As a result of this review, we are undertaking a number of actions in both the near and the long term. Although the initial emphasis is on aeronautical maintenance, we will expand our actions to include all of depot maintenance as we gain experience.

We will address mobilization planning, workload planning, plant and equipment modernization, interservice support, management information systems, source of repair selection procedures, and establishment of a permanent mechanism for addressing depot maintenance policy issues.

Perhaps the most important requirement for management of depot maintenance is to assure effective mobilization planning. To improve mobilization planning for depot maintenance the Military Services have tasked a joint group to address this question on a priority basis. Consisting of approximately 30 people from the military Services this group is currently developing an aeronautical depot maintenance Master Plan, to include mobilization requirements. When the Master Plan is completed the Services will be able to identify alternative workload assignment plans and determine the most efficient way to support the mobilization requirement. Whereas the Services have looked at mobilization requirements individually before, this joint approach will provide visibility of mobilization requirements across all Services.

Within the DoD there is concern over the effective and efficient utilization of depot maintenance facilities.

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Although in gross terms there may be some underutilization, gross estimates of unused capacity cannot be used as the basis for specific consolidation recommendations. After completion of the Master Plan, therefore, we will identify selected areas for detailed studies to improve efficiency. In these areas selected we will examine the costs, benefits, and risks associated with alternative workload distribution plans.

We see a need to modernize our plant and equipment to keep pace with technology and to improve our efficiency. There are a lot of innovative things going on in our depots. In order to assure that technological innovations developed by one Service are available to all the Services we will establish a joint group to monitor activities in this area. This group will effect coordination in the introduction of new technology, new processes, and new equipment into aeronautical depot maintenance activities.

Over the past several years the Military Services have emphasized the use of interservice support where it offers savings and does not degrade support to weapon systems. For example, in FY 1981, the JLC staffs completed 67 interservicing studies resulting in an estimated cost avoidance of about $35 million. In view of the potential for greater interservicing, we plan to increase our efforts in seeking opportunities for cost effective interservicing.

In attempting to look across Services for mobilization planning and for interservice support opportunities

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comparable Management Information Systems become important. Projected and actual Cost and Performance Data has to be readily accessible and the quality and timeliness must be improved. Therefore, a joint OSD/Service group will be established to focus on these requirements and develop a plan for improvement to our Depot Information Systems.

We are revamping our policy regarding use of organic and contractor sourcesof repair. The DoD policy in peacetime is to keep in-house capability and capacity for depot support of mission-essential equipment to the minimum required to ensure a ready and controlled source of technical competence and resources necessary to meet military contingencies. In order to provide a degree of specificity, current guidance is that, normally, organic depot maintenance capacity will be planned to accomplish no more than 70 percent of the gross mission-essential depot maintenance workload requirement. The ratio of 70/30 percent was established largely based on experience, with recognition that a more analytical approach should be sought. Therefore, a joint Service group will be tasked to develop a standard depot maintenance decision logic process for assigning source of repair responsibilities. The private sector industrial base will be considered in this process.

Finally, and perhaps most important, is the need for a forum available for OSD and the Service staffs to routinely examine broad policy issues or problem areas on a joint

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basis, to identify priority areas for attention and to assign tasks so as to avoid duplication of effort. Therefore, we are forming a permanent Maintenance Policy Council (MPC) which I will chair, with Service Secretariat, military staff, and DLA representatives.

Developing and executing a depot maintenance program is a very complicated task requiring the ability to balance manpower, financial and material resources. The Services have done and continue to do an exceptional job in supporting our Armed Forces through effective and economical depot maintenance management. Increasing our responsiveness and efficiency is a never ending task. I want to again thank the Committee for the help it has given us in our efforts to improve maintenance and for the opportunity to appear and present our depot maintenance program.

Mr. Chairman, this concludes my statement.

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Record Version

STATEMENT BY
MAJOR GENERAL JAMES S. WELCH
DIRECTOR OF SUPPLY, MAINTENANCE,
AND TRANSPORTATION
HEADQUARTERS, US ARMY
MATERIEL DEVELOPMENT AND READINESS COMMAND
DEPARTMENT OF THE ARMY
BEFORE THE
SUBCOMMITTEE ON DEFENSE
COMMITTEE ON APPROPRIATIONS
United States House of Representatives
SECOND SESSION, 97th CONGRESS
JUNE 10, 1982

Not for Publication
Until Released by the
House Appropriations Committee

MAJOR GENERAL JAMES S. WELCH

James S. Welch was born in Hermosa Beach, California, 19 April 1925. After one year at the University of California, Berkeley, California, his college education was interrupted by World War II. He spent 16 months with the Office of Strategic Services, serving as an enlisted Demolition Specialist with Detachment 101 in the India-Burma Theater and briefly in China.

Following World War II, he transferred to Stanford University, graduating in 1948. While at Stanford he enrolled in the ROTC program and was commissioned a 2d Lieutenant, USAR (QMC) 19 December 1947. Upon receiving his M.B.A. from Harvard University in 1950, he returned to California.

In August 1951, General Welch was recalled to active duty. He was assigned to USAREUR and the 4th Infantry Division. Upon integration into the Regular Army in April 1954, he was detailed to Armor and spent the remainder of the tour with the 4th Reconnaissance Co.

After a year at Fort Ord, California, General Welch reverted to QM control. He completed the QM Advanced Officer Course in 1957 and was assigned to duty with the Directorate of Supply, Headquarters, Air Material Command.

From 1959 to 1961, he was a member and later Chief of the QM Manpower Survey Team. In 1962 after graduation from the U.S. Army Command and General Staff College, he was ordered to Korea. Nine months later he was transferred to the G4 Section, HQ Eighth US Army.

Upon returning from Korea, General Welch attended the Armed Forces Staff College. Following AFSC, he served three years with Office, Special Assistant for Army Information Data Systems in OCofSA, Washington, DC. Then in 1967, he commanded the 95th S&S Bn, Fuerth, Germany for 7 months, the tour being interrupted by selection to attend the USAWC.

Following graduation from USAWC in June 1968, General Welch spent one year with the Institute of Advanced Studies at Carlisle Barracks, PA. In serving as the Logistics Staff Officer for the Institute, during this period he developed the concept for Combat Service Support and Base Development in the 1985 Army.

Thereafter, General Welch served in successive assignments in Vietnam. Then in September 1970 he was assigned to USAREUR.

From October 1970 to June 1976 he served successive assignments in Europe. On 1 July 1976 General Welch was promoted to Brigadier General and assigned to command the USAREUR Material Management Center, Zweibruecken with the additional duty as Asst Deputy Chief of Staff, Logistics/MR.

On 15 May 1978 BG Welch returned to CONUS and was assigned to command the US Army Depot System Command, Chambersburg, PA. General Welch was promoted to Major General on 1 July 1979.

General Welch assumed his current position as Director of Supply, Maintenance, and Transportation, HQ US Army Material Development and Readiness Command, on 10 March 1981.

His decorations include the Legion of Merit with 1st Oak Leaf Cluster, the Bronze Star, Presidential Unit Citation, and both the Army and Air Force Commendation Medals.

DEPOT MATERIEL MAINTENANCE AND SUPPORT ACTIVITIES

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INTRODUCTION

Mr. Chairman, Members of the Committee

It is a pleasure to appear before the committee. With me today is Brigadier General Edward Honor, Director of Resources and Management, and Mr. James Flinn, Assistant Director for Supply Management, Directorate for Supply and Maintenance, Office of the Deputy Chief of Staff for Logistics. My statement will provide you with an overview of our entire maintenance program as well as highlight some of the improvements and innovations in the program.

In my view, Depot Material Maintenance and Support Activities is as integral a part of Active and Reserve Component readiness as the operational training conducted by field units. Its contribution to readiness is accomplished in two separate, yet closely interrelated ways. The first element is the hardware program which, except for new procurement, is the only source of equipment supply for combat units. Our Army depots and commercial facilities provide the capability for overhaul, conversion, or repair of major secondary items of equipment and the expeditious return of these items to user units. Maintenance is not only an efficient source of supply but also a cost effective one. Return of equipment to serviceable condition costs on average only about 25 percent of new procurement. For some systems or equipments out of production, maintenance is the only source of supply. Thus, a depot capability, fully equipped, manned to meet the workload and appropriately funded, is a significant and positive step towards achieving our military preparedness goals.

The second element of the Depot Maintenance Program - Maintenance Support Activities - is not as visible as the hardware program but is every bit as critical in achieving and sustaining field readiness. Maintenance Support Activities focus primarily on support to the field rather than support of the overhaul lines. It funds the fielding of new systems and equipment; maintenance engineering support before, during and after deployment; new equipment training; and, the update of publications and technical manuals for operation and maintenance of equipment after fielding.

Through the FY 1981 Supplemental Appropriation and the FY 1982 Budget Amendment, we have made great progress to achieve the Army objective of a zero executable hardware backlog by 30 September 1982. The budget submitted in January of this year represented, given known requirements at that time, a continuation of that objective. We view zero executable backlog as one of the primary indicators of materiel readiness and sustainability. Zero backlog applies only to those requirements which are not constrained by capacity or capability and are, therefore, executable. The Army prioritizes its backlog, as well as the base program, on the basis of relative contribution to readiness and sustainability. First priority is given to secondary items which directly impact readiness and sustainability through supply system availability. Equipment modernization, through modifications and conversions, directly impacts operational and combat effectiveness and is our second priority. The third priority is given to returning major items to the supply system. Thus, we believe that achieving and sustaining a zero level executable backlog contributes directly to the maintenance of Army field readiness.

As I mentioned previously, the Maintenance Support element of the program is also an integral part of unit readiness. The resources requested for the hardware program place us in a glide path toward backlog elimination. The significant unfinanced program in Maintenance Support Activities, however, causes me great concern about our ability to deliver the necessary engineering, training, and technical support needed to meet our new system deployments and, simultaneously, support all of our older fielded equipment.

DEPOT MATERIEL MAINTENANCE

Now I would like to describe the depot maintenance process.

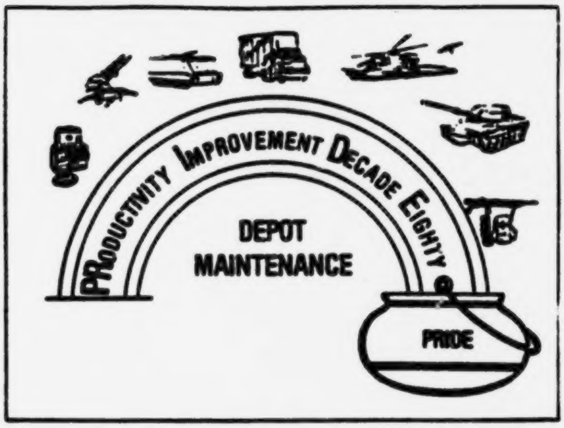

PRODUCTIVITY IMPROVEMENT DECADE EIGHTY
DEPOT
MAINTENANCE
PRIDE

CHART 1

The acronym PRIDE - Productivity Improvement Decade Eighty - is our objective for this decade. I will discuss later certain of our initiatives in this area.

When you look at the total FY 1983 OMA appropriation request before Congress, you see that P7M or the total depot maintenance program is at $1.7 billion or 10 percent of the total OMA.

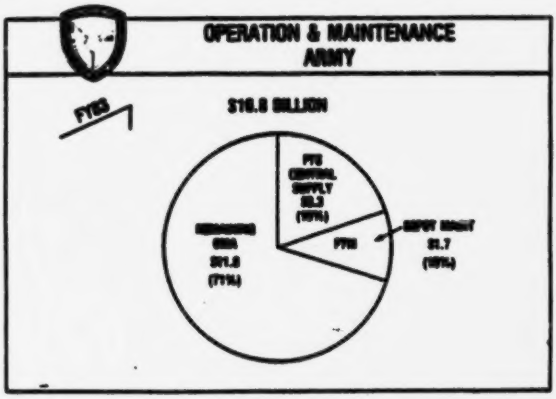


CHART 2

The hardware portion of the program is $1.2 billion. The program growth in Depot Maintenance is primarily due to increased emphasis on modernization and a concerted effort to keep executable backlog to a zero level.

This chart shows you - in millions of dollars - the distribution of the hard iron program element between contract maintenance (Yellow) and our CONUS Army depots (Blue) for the past three years.

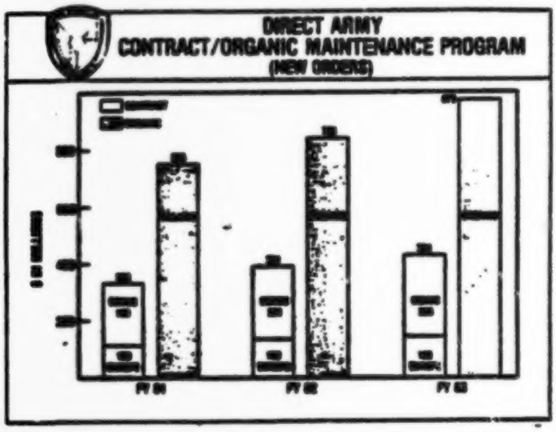


CHART 3

We estimate contract maintenance for FY 1983 at 30 percent of the total, including our government-owned contractor-operated facilities in the Federal Republic of Germany - Mainz Army Depot.

The Army's depot system is comprised of 17 widely dispersed CONUS installations, and the two overseas plants. The CONUS depot workforce of 39,000 employees is approximately one-third of total DARCOM employment. Within the depot system, the breakdown of employment is about 46 percent in maintenance with the balance split between supply operations and base operations support. Capital assets are estimated at approximately $1.2 billion.

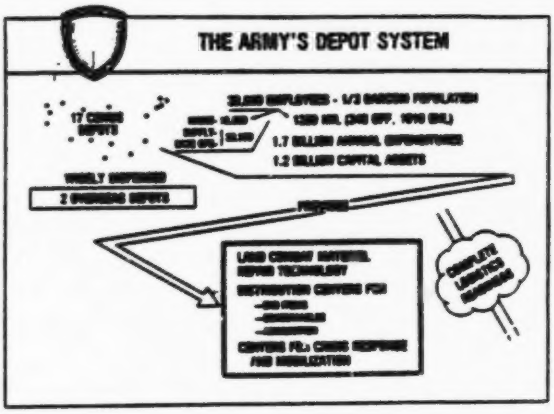
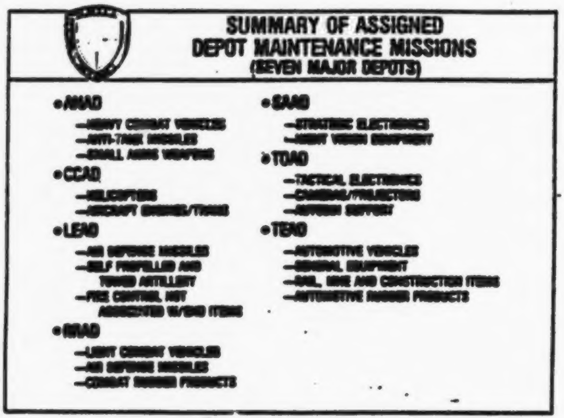

THE ARMY'S DEPOT SYSTEM
17 CONUS DEPOTS
39,000 EMPLOYEES - 1/3 DARCOM POPULATION
1.7 BILLION ANNUAL EXPENDITURES
1.2 BILLION CAPITAL ASSETS
WIDELY DISPERSED
2 OVERSEAS DEPOTS
COMPLETE LOGISTICS READINESS
LAND COMBAT MATERIEL REPAIR TECHNOLOGY
DISTRIBUTION CENTERS FOR
CENTERS FOR CRISIS RESPONSE AND MOBILIZATION

CHART 4

The depot system provides complete logistics readiness in the form of land combat material repair technology. The depot system also serves as the distribution complex for end items and consumable items such as repair parts and ammunition. This distribution function is performed through three Area Oriented Depots at New Cumberland Army Depot in Pennsylvania; Red River Army Depot in Texas; and, Sharpe Army Depot in California. Finally the depots constitute centers for crisis response and mobilization - in an emergency or contingency we would deploy teams from these depots as needed.

In CONUS our maintenance work is done at nine different depots on the basis of prime depot assignments.



SUMMARY OF ASSIGNED
DEPOT MAINTENANCE MISSIONS
(SEVEN MAJOR DEPOTS)

- ANAD
  - —HEAVY COMBAT VEHICLES
  - —ANTI-TANK MISSILES
  - —SMALL ARMS WEAPONS
- CCAD
  - —HELICOPTERS
  - —AIRCRAFT ENGINES/TRANS
- LEAD
  - —AIR DEFENSE MISSILES
  - —SELF PROPELLED AND TOWED ARTILLERY
  - —FIRE CONTROL NOT ASSOCIATED W/END ITEMS
- RRAD
  - —LIGHT COMBAT VEHICLES
  - —AIR DEFENSE MISSILES
  - —COMBAT RUBBER PRODUCTS
- SAAD
  - —STRATEGIC ELECTRONICS
  - —NIGHT VISION EQUIPMENT
- TOAD
  - —TACTICAL ELECTRONICS
  - —CAMERAS/PROJECTORS
  - —AVIONIC SUPPORT
- TEAD
  - —AUTOMOTIVE VEHICLES
  - —GENERAL EQUIPMENT
  - —RAIL, MINE AND CONSTRUCTION ITEMS
  - —AUTOMOTIVE RUBBER PRODUCTS

CHART 5

- At Anniston we perform maintenance on heavy combat vehicles such as the M60 Series tank. We are currently repairing components for the M-1 Abrams tank and will phase in the end items in FY 1985. Other Anniston workload include various anti-tank and surface-to-surface missiles such as TOW, TOW-Cobra, Dragon, Lance, and small arms such as the M16A1 rifle.

- Corpus Christi Army Depot is prime for helicopter airframes, engines, and transmissions. Examples of current workload are the UH-1 and AH-1 Cobra. Future missions will include the UH60A BLACKHAWK.

- Letterkenny is our center for air defense missiles such as the Improved Hawk, self-propelled and towed artillery and fire control equipment not associated with specific end items.

- Light combat vehicles are the mission of Red River. This includes the entire M113 Family of Vehicles as well as selected Air Defense missiles associated with armored personnel carriers. Road-wheels and tracks, for both tank and APC, are also done there.

- Sacramento Army Depot is our depot for strategic communication and electronics equipment. This depot also supports signal intelligence/electronic warfare systems such as QUICKLOOK and Guardrail and repair of night vision devices and laser range finders found on the M60 and M1 tanks.

- Tobyhanna Army Depot is our prime for tactical electronics and strategic fixed/transportable systems such as Air Traffic Approach Radar and Battle Area Surveillance Systems. Tobyhanna also supports the worldwide Automated Digital Communications System (AUTODIN), the TACFIRE Direction System, and is responsible for communication and electronics equipment for Special Electronics Mission Aircraft (SEMA).

- Tooele Army Depot in Utah repairs trucks; overhauls truck components such as engines and transmissions; general equipment to include generators, rail, materials handling equipment, and, construction equipment; and fabricates automotive rubber products.

- Two other missions not shown include Communications Security Equipment (COMSEC) maintained at Lexington Kentucky; and Pershing Surface-to-Surface missiles at Pueblo, Colorado.

Our overseas facility at Mainz Germany performs much the same combat vehicle maintenance for the European Theater as is done at Anniston, Letterkenny, and Red River. It constitutes our forward deployed facility for the in-theater overhaul or repair of both heavy and light combat vehicles and associated secondary items and components such as engines, fire control and armament systems. The Ober-Ramstadt Depot Activity is the source for rubber products ranging from road-wheels and track to recapped pneumatic tires.

This distribution system model illustrates how maintenance fits into the process.

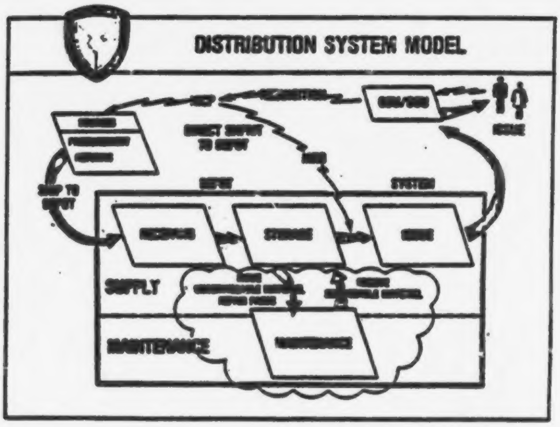


CHART 6

The upper part represents the ordering part of our distribution system. Requisitions from general and direct support units (DSU/GSU) flow to the five Inventory Control Points, which in turn issue material release orders (MRO) to the depots and trigger the shipments to the units.

Additionally, the NICP initiates the flow of material into the depot, either from new procurement or returns from installations or field units. Such returns are generally unserviceables on the automatic return items list. All material goes through depot receiving to storage and the receipt is reported back to the NICP.

Supply issues to maintenance both the unserviceable material and the repair parts needed to do the work. The work is done in the maintenance shops and the equipment then returned to storage. That receipt of repaired material is then reported back to the NICP.

As mentioned earlier, there are two sources of supply, new procurement and maintenance. Thus, we consider maintenance a subset of the distribution system. Although supply and maintenance people tend to argue about their relative importance, they are, in actuality, mutually dependent. And there is a delicate balance between the two that all too often is not recognized. For every eight maintenance personnel, we estimate that one additional supply person is needed for supply support of maintenance. Maintaining that balance is essential, but because of the arbitrary reductions we face periodically, we have difficulty sustaining the proper balance at times.

Now for a model of the Army Industrial Fund. From the Congress comes the dollars appropriated in the form of first, the working capital of our Army Industrial Fund and second, the appropriations that will flow into the Fund. While the chart shows the ordering activities as being Operating Forces and Readiness Commands, the real customer is the soldier who uses the equipment.

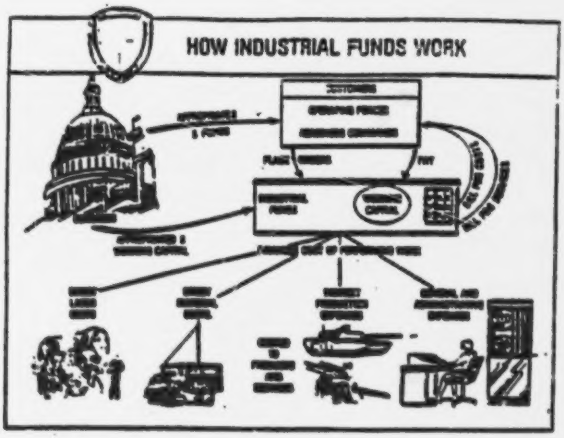


CHART 7

FINANCING AND PRICING

Our primary funding source is OMA Program 7M. Lesser amounts come from Army Stock Fund and Procurement funding, the latter generally for fabrication and initial production where a technical specification has not been fully developed. We will fabricate and do an initial production lot until the technical data package is adequate for the developing command to take to contract. Finally, we support other service requirements through Depot Maintenance Interservice Support Agreements.

Once the order is placed on the Army Industrial Fund, the working capital finances the cost of doing the work, in terms of direct labor, direct material costs, indirect production expenses, and the general and administrative expenses.

The depot then costs these expenses to the products and services and bills the ordering activities every two weeks either on the basis of a fixed price or actual cost. I will expand on that point in a moment.

The payback comes when the working capital is reimbursed by the ordering activity. The headquarters DESCOM role is the authorization of the work after depot acceptance of the order. The Depot System Command also provides a single point of cash management for both CMA dollars involved here as well as the AIF dollars. The control system we use for all this is the Standard Depot System which, I believe, is one of the best automated systems the Army has developed.

I previously mentioned that ordering activities are billed on the basis of either fixed prices or cost reimbursement. Such customers as Foreign Military Sales and non-Federal Customers are billed on the basis of actual cost incurred. Some 80 percent of customer orders though come under the rate stabilization concept or fixed price. Before going to fixed prices, cost increases resulting from any condition were passed on to the customer. This caused us to continually reduce programs, or reschedule production in order to stay within customer fund availability.

In industrial facilities, such program instability generates imbalances between workload and manpower, and such imbalances can be extremely costly.

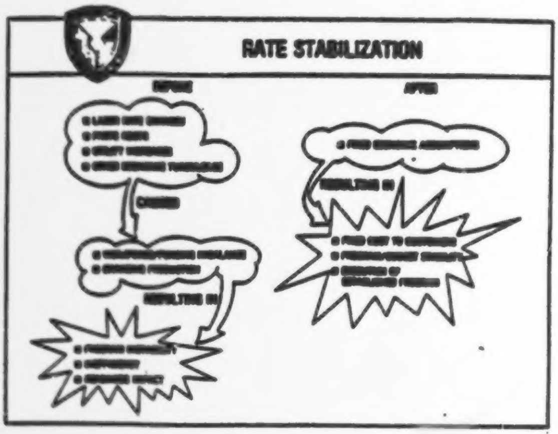


CHART 8

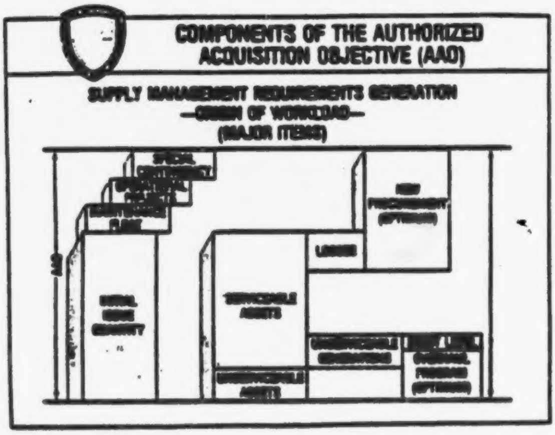
The rate stabilization concept precludes constant rescheduling of programed work by providing the customer the best available cost estimate at the beginning of the year and maintaining that cost throughout program execution.

The fixed prices are predicated on the economic assumptions contained in the President's Budget for that particular fiscal year. For the FY 1983 budget the industrial fund input was developed from June - September 1981. Changes to the economic assumptions were made during the OSD/OMB budget review, and customer accounts were adjusted concurrently. These rate adjustments are then broadcast to both performing and ordering activities in order to establish firm programs for the Budget year.

Fixed price development is a complex process. Individual item prices are based on a compilation of all appropriate labor and material costs. Adjustments are made to capture changes in actual and predicted inflation as well as any productivity gains realized. The target year unadjusted fixed price is then further adjusted by the NOR or Net Operating Results. The NOR is the profit or loss experienced by the industrial fund the previous year. The total adjusted fixed price then remains constant during program execution. The results are: a better means of budget formulation; development of more realistic programs; and, stability during program execution.

REQUIREMENTS DETERMINATION AND WORKLOADING

Now for maintenance requirements and how we get there. And I am talking now basically about things done at the National Inventory Control Points, not the Depot System Command. Starting with the authorized acquisition objective shown here, the supply manager will run through a requirements generation which considers the initial issue quantities required for the item, maintenance float requirements, operational project stocks, if there are to be any, as well as any special contingency stock requirements such as for the Rapid Deployment Force. These together constitute the totality of the authorized acquisition objective.



COMPONENTS OF THE AUTHORIZED
ACQUISITION OBJECTIVE (AAO)

SUPPLY MANAGEMENT REQUIREMENTS GENERATION
—ORIGIN OF WORKLOAD—
(MAJOR ITEMS)

AAO
SPECIAL CONTINGENCY
OPERATIONAL PROJECT
MAINTENANCE FLOAT
INITIAL ISSUE QUANTITY
SERVICEABLE ASSETS
UNSERVICEABLE ASSETS
LOSSES
NEW PROCUREMENT (OPTIMUM)
UNSERVICEABLE GENERATIONS
OVERHAUL PROGRAM (OPTIMUM)

CHART 9

He or she then looks at what they have on hand in the way of both serviceable and unserviceable material. They project what their anticipated losses or "washouts" will be which then creates what is the ideal in terms of new procurement. Concurrent with the determination of new procurement requirements, the supply manager develops the optimum overhaul requirement.

This slide illustrates the process I just described. It is unclassified.

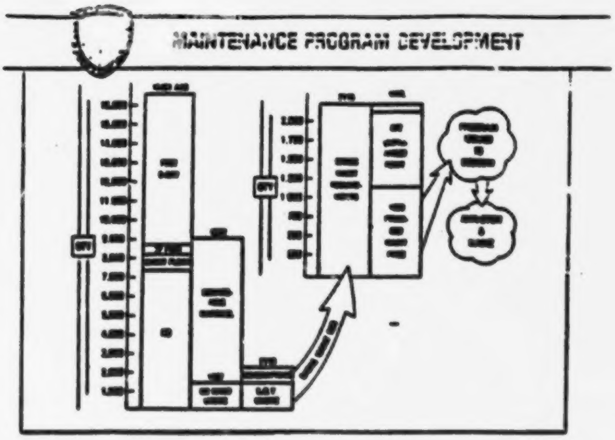


CHART 10

The Initial Issue Quantity (IIQ), maintenance float requirement, operational projects, and the projected post D-Day losses make up the total Authorized Acquisition Objective (AAO) of some 16,491 tanks. Of those on hand, 1,557 were unserviceable. Projecting overhaul generations for the period gave us a gross maintenance requirement of 2,116. As you can see, in this case our funding guidance would accommodate only 1,090 tanks, and this program was workloaded to Anniston and Mainz depots. The 872 unserviceables were carried as unfinanced maintenance backlog. Of course, this was in the days when we had a substantial combat vehicle backlog, a situation that does not exist today.

Maintenance program development is a complex and interactive process which draws upon many data sources.

Gross material requirements come from the Major Subordinate Commands (MSC). At Headquarters, DESCOM they are merged with other material data, major item distribution plans, and cost data. These data are brought together in seven different data files called the System for Automated Material Plans for Army Material, or SAMPAM. These files are updated quarterly to reflect changes in priorities, force structure, failure factors, and other variables.

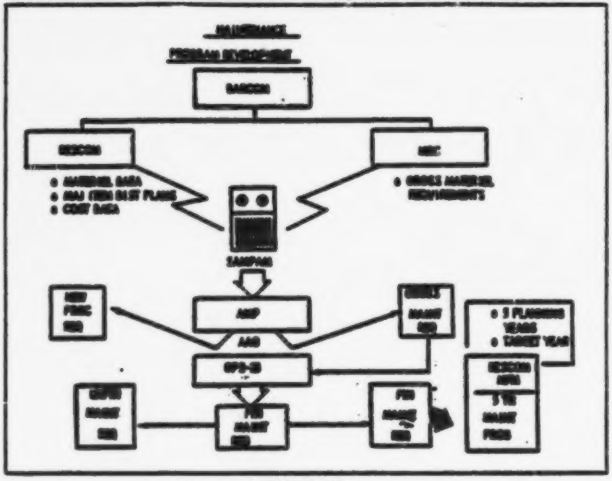


CHART 11

The end result of this manipulation is the Army Material Plan, the trigger for new procurement requirements and gross maintenance requirements.

The gross maintenance requirements come out in a document called the OPS-25 Forms which display requirements for the coming five year period. The gross requirements are adjusted to net and funding constraints applied to derive the financed program. This financed level is then locked into the MFM or Master File for Maintenance. As I stated, we work with a five year program, the target year and four program years. The OPS-25 additionally provide the backlog or unfinanced data such as in the case of the tank I mentioned a moment ago.

Next we come to the specifics of the depot workloading system. On the previous chart I mentioned that we locked the Target Year Planned Requirements into the MFM or Master File for Maintenance. That triggers further to either the organic Army depot maintenance program we will do or to national contract as appropriate. Then in the workloading process at Headquarters DESCOM there is the verification of the prime depot, the application of the Defense Integrated Management Engineered Manhours Standard; the assignment of the fixed price; and the application of any manpower constraints due to the civilian employment projections (CEP).

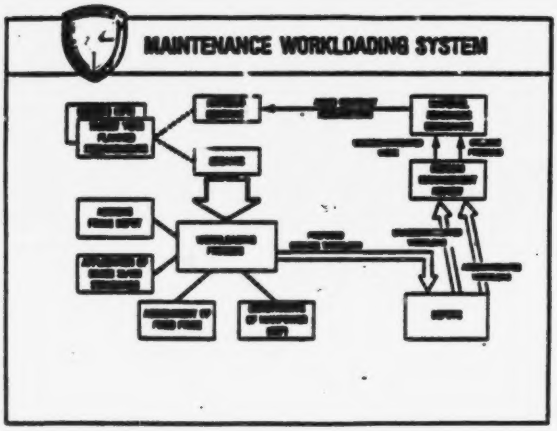


CHART 12

The output is the proposed organic workload and data that are submitted to the depots. The depots then respond with their assessment of what workload can be accommodated within existing physical and manpower capability. They report those assessments back to DESCOM where after a management review, the organic program is established and reported to the Material Readiness Commands. Any unaccommodated work is looked at for other possibilities - assignment to another depot, to contract or to additional interservicing.

Looking at the FY 1982 program you see the distribution of the depot program by commodity.

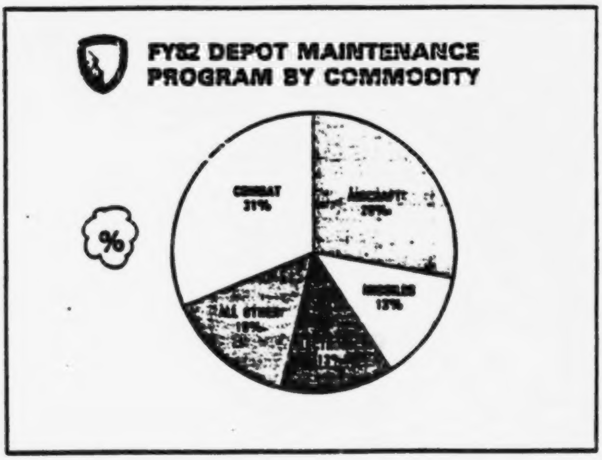


CHART 13

Combat vehicles and aircraft account for 59 percent of the program with missiles and electronics comprising another 26 percent. The remaining 15 percent consists of calibration, automotive, small arms, watercraft and a wide range of other commodities.

This is how the program distributes by work category. Overhaul represents 60 percent, pure repair 16 percent (FY 1981 - 12%), and conversion, modification and fabrication 12 percent. The other 12 percent includes calibration, renovation, and inspection and test.

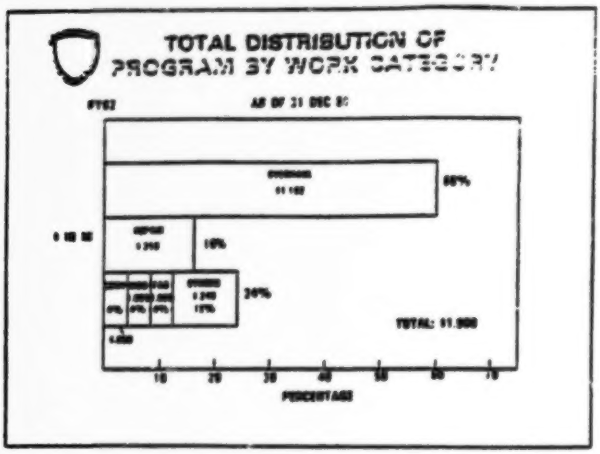


CHART 14

The overhaul category (60 percent) misleads some people at times. While defined as overhaul, this category includes aircraft maintained to on-condition-maintenance standards, communications-electronics material which we repair only as necessary, and combat vehicles now under the RCM or Reliability Centered Maintenance Concept. I will discuss more about this later.

HOW PERFORMANCE IS MEASURED

As work proceeds the depots report production status to Headquarters, DESCOM. We have the capability on a daily basis, using visual information displays, to check on the status of the MFM file.

Also we produce weekly what we call the Program Status Report and that is where program performance is tracked. The PSR gives us visibility of the procurement request order number and the Army management structure code. It shows the national stock number, nomenclature of the item, program quantity, program schedule/production, cost data, manhour data, narrative data, et cetera.

PROGRAM STATUS REPORT

DATA VISIBILITY

- DARCOM PROCUREMENT REQUEST ORDER NUMBER (PRON)
- ARMY MANAGEMENT STRUCTURE CODE (AMSC)
- NATIONAL STOCK NUMBER (NSN)
- NOMENCLATURE
- PROGRAM QUANTITY
- PROGRAM SCHEDULES/PRODUCTION
- COST DATA
- MANHOUR DATA
- NARRATIVES

(DMWR'S, INSTRUCTIONS, COMMUNICATIONS, ETC.)

CHART 15

In short, the PSR provides all the information needed to measure production performance against the planned program; to monitor changes to production schedules; and, to adjust the on-hand asset position.

Our second and specialized management tool is the Maintenance Selective Management Program.

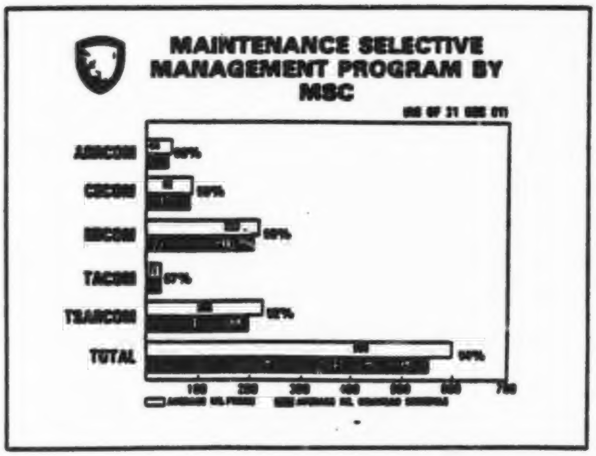


CHART 16

This program allows the MSC Commanders to advise the depots of those specific items especially keyed to readiness. Once identified, these items are intensively managed to insure that production is kept on or ahead of schedule. Our goal is to have 95 percent on or ahead of schedule. Currently some 596 active production orders are in the program. At 31 December 1981, we were on or ahead of schedule on 94 percent of our intensively managed items.

All commands with one exception met or exceeded the 5 percent allowable variance. Items which were behind schedule included, M109 Howitzers, M60 machine guns, and M163A Vulcans. On the M109's the reason for slippage was a shortage of repair parts. This situation was resolved within 30 days of the report.

MANPOWER AVAILABILITY

Manpower availability is critical to affective and efficient operation of any industrial activity. In the past, manpower ceilings have restricted our ability to execute the Depot Maintenance Program efficiently; have contributed to inefficient production runs; and, have caused excessive maintenance carryover. The Army Industrial Fund was designed to function as a commercial operation providing services to ordering activities. To be effective, the industrial fund must have the flexibility to respond to demands for fully funded work with a workforce commensurate with the requirement. In late FY 1980 and early FY 1981, the depots were under a hiring limitation which left us some 1,501 personnel under authorization on 28 February 1981. Shortly thereafter our authorizations were increased by some 1,500 spaces to reduce backlog and carryover.

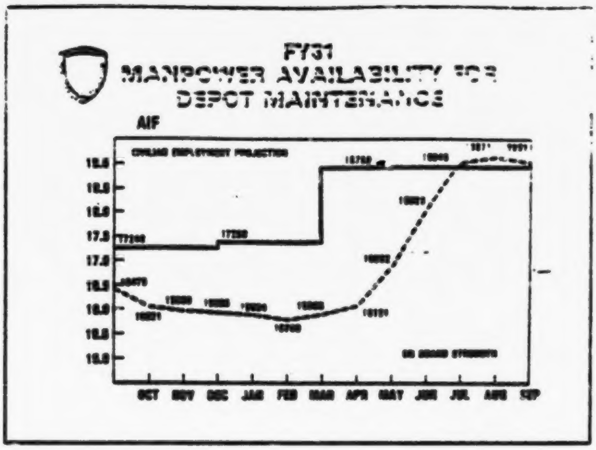


CHART 17

We have achieved workforce stability in FY 1982 and the projection for FY 1983 is promising. It defies common sense, however, to be expected to manage an industrial operation efficiently in a feast or famine manpower environment.

Now for a few words about Depot Maintenance Carryover. This chart shows the trend in months of funded work at fiscal year-end since FY 1977 with our projection for 30 September 1982.

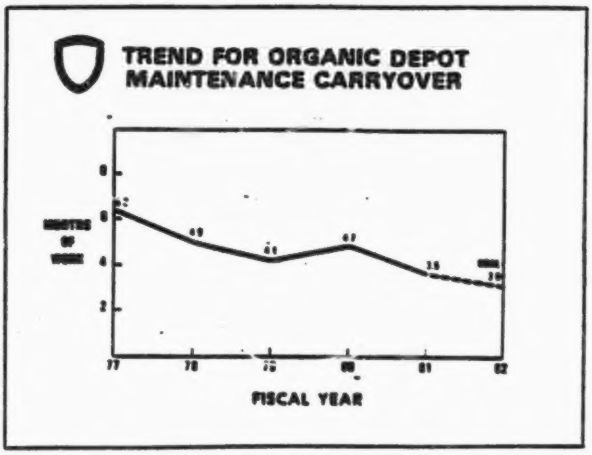


CHART 18

Please note that the carryover applies only to financed work. Back in time we had a large unfinanced requirement which is not even reflected in these figures, but that situation does not exist today.

Also note that we manage the workyear in terms of a 15-months year. Three (3) months of work on the books at fiscal year-end enables us to maintain smooth production schedules and continuity of operations, notwithstanding abrupt changes or delays in appropriations.

Thus, in FY 1981 through resumption of hiring, overtime and increased productivity, we reduced the carryover from 4.7 to 3.5 months.

PRODUCTIVITY AND MANAGEMENT IMPROVEMENTS

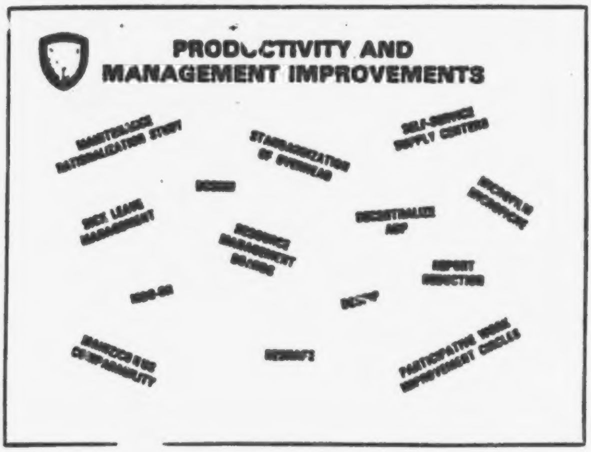

PRODUCTIVITY AND
MANAGEMENT IMPROVEMENTS
MAINTENANCE RATIONALIZATION STUDY
STANDARDIZATION OF OVERHEAD
SELF-SERVICE SUPPLY CENTERS
SICK LEAVE MANAGEMENT
RESOURCE MANAGEMENT BOARDS
DECENTRALIZE ADP
REPORT REDUCTION
PARTICIPATIVE WORK IMPROVEMENT CIRCLES

CHART 19

The depot maintenance mission assignments I mentioned early in the presentation came out of a 1977 Depot Maintenance Rationalization Study. The prime depot concept - concentrating all work on an item or family of equipment at one depot - and the area oriented supply depot concept gave us a six (6) percent productivity gain, we estimate, in both FY 1978 and FY 1979. Frankly, that is what saved our depot system once we got our resources redistributed.

Since then we have implemented what we call the Discipline Standardization of Depot Organizational Structure and Staffing which staffed depot overhead areas uniformly. This generated some 350 spaces for reinvestment.

Through better management and standardization of hand tool cribs and self service supply centers, we saved an additional 50 manyears of effort.

Increased management emphasis on high sick leave and leave without pay (LWOP) rates have given us, we calculate, an additional 90 workyears of productive effort annually.

In structuring for productivity management, we created directorates for resources management at each depot. This organization integrates financial, manpower, and productivity management under one director. Resource Management Boards coordinate all productivity actions within the depots, and an Idea Interchange Program provides for exchange of new ideas and concepts between depots.

In the data processing area, we have decentralized ADP terminal operations to the functional areas, making operation of them an additional duty for existing clerks and Production Planning and Control (PPC) Officers. Also we have converted data input from predominantly punched cards to key-to-disk-to-magnetic tape. And through an ADP Management Study, we have eliminated 10 percent of our reports and reduced the number of copies of an additional 10 percent. This latter reduction along with greater use of microform reports have given us significant paper savings.

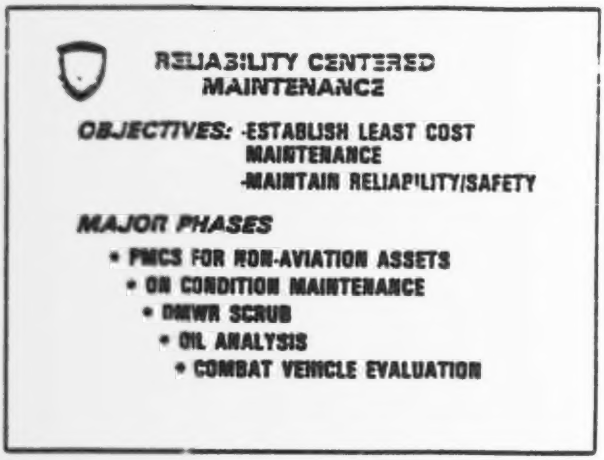
At the depots we have used MBO-OR or Management by Objectives for Organizational Results to refocus the people totally on performance results. This has become the foundation for successful implementation of the Civil Service Reform Act, Merit Pay appraisal and the present Officer Efficiency Reporting System.

All depot productivity enhancement has been brought together under an umbrella program we call DESPIP or the DESCOM Productivity Improvement Programs and integrated into the DARCOM RESHAPE effort or Resources Self-Help Affordability Planning Effort. Through the use of overtime, organizational streamlining, capital investment and other RESHAPE initiatives we gained 5,054 workyears in FY 1981 which represents 12[illegible] percent of our goal.

Also, we now have in the depots some 150 Participative Work Improvement Circles (1980) patterned after the Japanese quality circles.

Finally, where work processes and productivity are concerned, we have done what we call the Mainz-CONUS Depot Comparability Study. This initiative reviewed the maintenance standards of our European depot with those of the CONUS depots. Its objective was to reduce the work time required to bring unserviceable equipment back up to acceptable field use condition.

Moreover, we are well down the road now with RCM or the Reliability Centered Maintenance Program I mentioned earlier.



RELIABILITY CENTERED MAINTENANCE

OBJECTIVES: -ESTABLISH LEAST COST MAINTENANCE
-MAINTAIN RELIABILITY/SAFETY

MAJOR PHASES

- PMCS FOR NON-AVIATION ASSETS
- ON CONDITION MAINTENANCE
- DMWR SCRUB
- OIL ANALYSIS
- COMBAT VEHICLE EVALUATION

CHART 20

RCM is a multi-faceted program designed to establish the least maintenance cost for an item while meeting reliability and safety requirements. It has involved:

- Review of our PMCS or Preventive Maintenance Check Sheets to eliminate, or reduce the frequency of organizational tasks to be performed.

- On Condition Maintenance (OCM) for aircraft to identify those that need overhaul based on actual condition as opposed to the number of flying hours accumulated since last overhaul. Thus, in FY 1981, we overhauled 29 percent less aircraft than we would have under the criteria that governed up to 1976. Similarly, we use field teams and a telephone "hotline" to repair or trouble shoot engines, panels and airframes to preclude their unnecessary return to depot. In FY 1981, these "housecalls" returned to service some 614 engines that might have been unnecessarily returned to depot.

- The DMWR or Depot Maintenance Work Requirements scrub to eliminate "gold plating" or unnecessary depot maintenance tasks and substitute, where appropriate, diagnostic testing for partial or complete teardown analysis of engines, transmissions, etc. For example, on a sample of ten (10) M110 Self-Propelled Howitzers, we found that seven (7) power trains, six (6) engines, and seven (7) generators did not require overhaul and were reused "as is." Through Sample Data Collection, we have validated the howitzer operational reliability while enjoying a savings of $20,000 per vehicle.

- The Army Oil Analysis Program (AOAP) is part of a DOD-wide effort to detect impending component failure and lubricant condition through analytic evaluation of oil samples. Lubricant samples are taken from both aviation and ground equipment and subjected to analysis to determine unusual or premature increases in particulate matter. Early identification of any unusual condition results in corrective maintenance prior to component failure. This technique will enhance safety of flight, improve organizational maintenance effectiveness and reduce depot level requirements through preventative maintenance.

- The Combat Vehicle Evaluation (CVE) Program whereby teams visit each CONUS and overseas location annually to ascertain, based on condition, which vehicles need overhaul. My next two charts address CVE results for specific vehicles.

First, the M60 tank series.

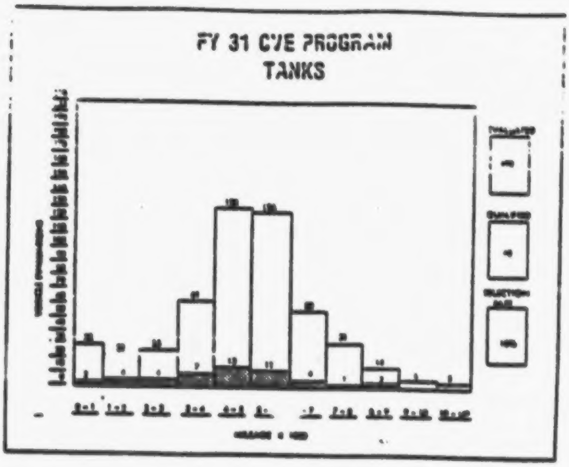
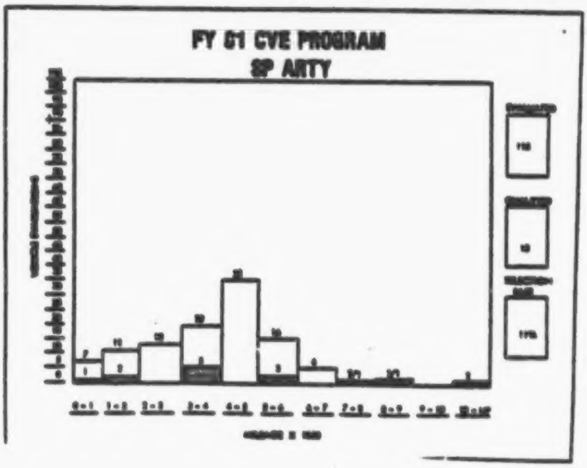


CHART 21

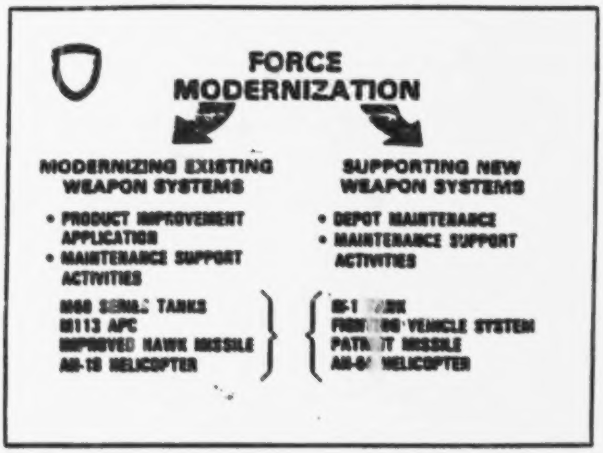
Here you see that of 498 tanks evaluated, only 48 tanks or 10 percent qualified for overhaul. Of note under the old 5,000/6,000 miles criteria, 203 tanks would have been overhauled. The 10 tanks under 3,000 miles are special cases where a vehicle suffered crash damage during a training exercise or as in one instance a fire occurred in the turret.

As for the Self-Propelled Howitzers (M109 and M110), the depot overhaul selection rate was 11 percent or 13 vehicles as opposed to 31 under the old criteria.



EQUIPMENT AND FACILITY MODERNIZATION

Now for a few words about Force Modernization.



FORCE MODERNIZATION

MODERNIZING EXISTING WEAPON SYSTEMS
- PRODUCT IMPROVEMENT APPLICATION
- MAINTENANCE SUPPORT ACTIVITIES

M60 SERIES TANKS
M113 APC
IMPROVED HAWK MISSILE
AH-1S HELICOPTER

SUPPORTING NEW WEAPON SYSTEMS
- DEPOT MAINTENANCE
- MAINTENANCE SUPPORT ACTIVITIES

M-1 TANK
FIGHTING VEHICLE SYSTEM
PATRIOT MISSILE
AH-64 HELICOPTER

CHART 23

We are deeply involved in modernization of existing weapon systems through product improvements. The purpose, of course, is to enhance the overall capability of the equipment and extend its useful life by several years. A number of major fielded systems are involved - the M60 tank, the M113 Armored Personnel Carrier, the Improved Hawk Missile, and the AH-1 Cobra Helicopter. In addition, we are preparing for depot support of major systems being, or soon to be, fielded. Both existing and new systems require maintenance support activities which includes such functions as new or revised publications, new equipment training, and technical assistance to the field.

Concurrent with our effort to modernize the force, we are programing replacement or modification of many existing maintenance facilities. Antiquated maintenance shops contribute to low productivity, higher O&M costs, constrained capability, and poor work environment. To overcome these deficiencies, DARCOM has submitted 43 maintenance facility military construction proposals totaling over $170 million for FY 1983 through FY 1988.

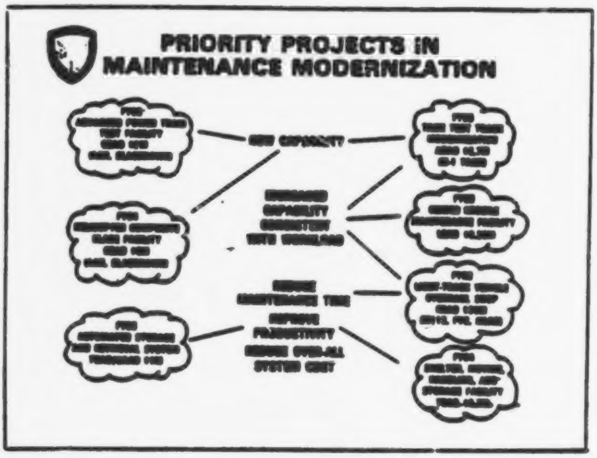

PRIORITY PROJECTS IN MAINTENANCE MODERNIZATION
NEW CAPABILITY
ENHANCED CAPABILITY CONSISTENT WITH WORKLOAD
REDUCE MAINTENANCE TIME
IMPROVE PRODUCTIVITY
REDUCE OVER-ALL SYSTEM COST

CHART 24

A specific example is Red River Army Depot, our prime depot for light combat vehicles. Currently we are constrained by our present facilities, designed in the 30's, built in the 40's. They simply do not have the structural capability or the physical capacity to effectively meet our mobilization requirements to handle the larger vehicles of our modern Army.

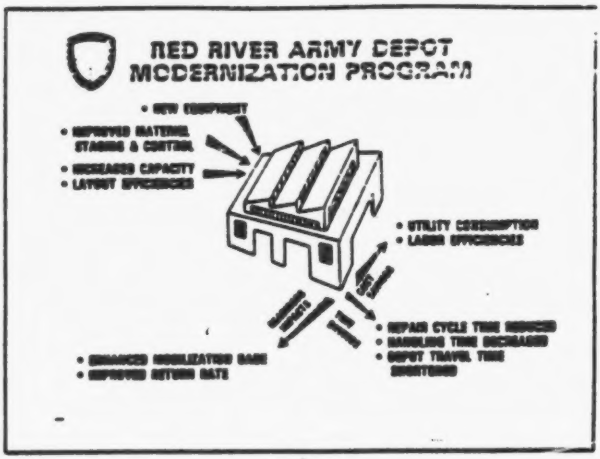

RED RIVER ARMY DEPOT
MODERNIZATION PROGRAM
• NEW EQUIPMENT
• IMPROVED MATERIAL STAGING & CONTROL
• INCREASED CAPACITY
• LAYOUT EFFICIENCIES
• UTILITY CONSUMPTION
• LABOR EFFICIENCIES
• REPAIR CYCLE TIME REDUCED
• HANDLING TIME DECREASED
• DEPOT TRAVEL TIME SHORTENED
• ENHANCED MOBILIZATION BASE
• IMPROVED RETURN RATE

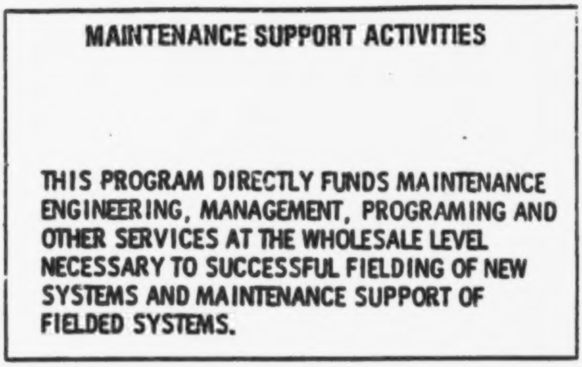
CHART 25.

Thus, we have a $39 million light combat vehicle and rubber products maintenance facility for RRAD in our FY 1983 Military Construction Appropriation Program. The new facilities will increase the efficiency of current operations, and also give us increased capability, both for peacetime and mobilization.

MAINTENANCE SUPPORT ACTIVITIES

Finally, I would like to address the part of the program which does not enjoy the same visibility as hardware, and therefore, does not enjoy the same priority for resources.

Maintenance Support Activities focuses primarily on support to the field forces. The program is critical to the fielding of new systems and equipment; the source of engineering support before, during, and after deployment; pays for new equipment training for units receiving equipment; pays for update of publications, technical manuals; and, provides for technical assistance needed to support equipment after fielding.

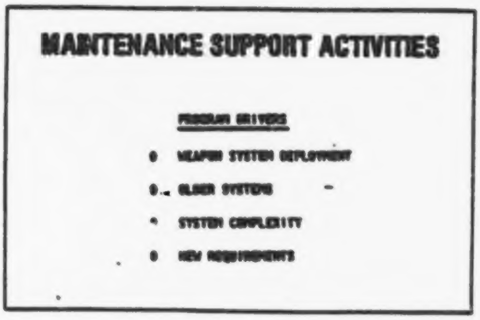


MAINTENANCE SUPPORT ACTIVITIES

THIS PROGRAM DIRECTLY FUNDS MAINTENANCE ENGINEERING, MANAGEMENT, PROGRAMING AND OTHER SERVICES AT THE WHOLESALE LEVEL NECESSARY TO SUCCESSFUL FIELDING OF NEW SYSTEMS AND MAINTENANCE SUPPORT OF FIELDED SYSTEMS.

CHART 26

The program drivers are weapon system deployments; older systems still in the field; system complexity; and, new requirements. Requirements are not self generating, but rather, the result of decisions to develop and deploy new systems, or to improve or modify fielded equipment.



MAINTENANCE SUPPORT ACTIVITIES

PROGRAM DRIVERS

- WEAPON SYSTEM DEPLOYMENT
- OLDER SYSTEMS
- SYSTEM COMPLEXITY
- NEW REQUIREMENTS

CHART 27

Additionally, the need for resources in this program relates to the number of different systems in use rather than to systems densities.

Maintenance Support Activities requirements reappear throughout the life cycle of any system. Starting with the concept phase, OMA funding is required to develop provisioning packages; supportability requirements; validation of technical and maintenance procedures; maintenance supportability concepts, and fielding plans.

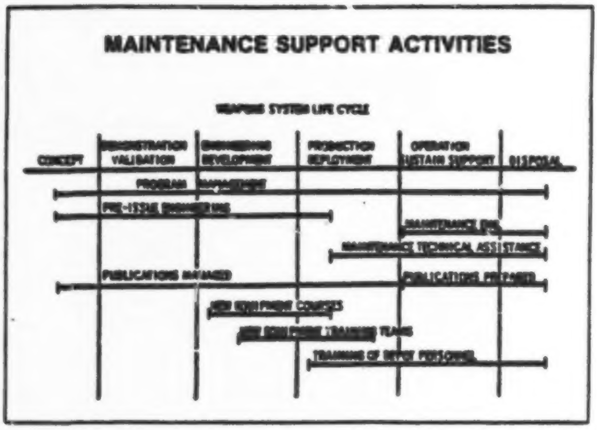


CHART 28

New Equipment Training courses are developed and New Equipment Training Teams are established to provide for transfer of knowledge from the developer to TRADOC or unit trainers. As the system transitions through the development and acquisition phases, an increasing number of tasks and functions are assumed by the maintenance community.

As this notional slide depicts, when end item production ceases, the burden of engineering and publications support shifts totally to our Maintenance Support Activities.

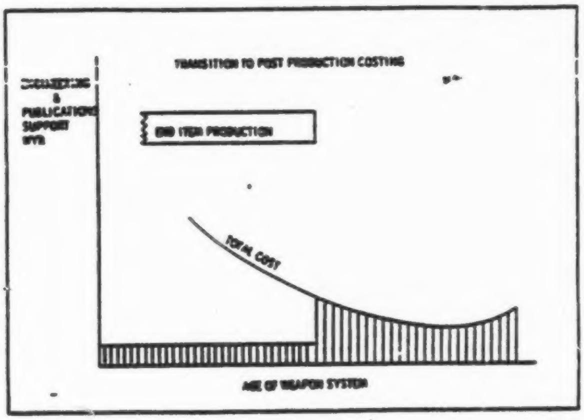


CHART 29

The longer a system remains active, the greater the added costs. In some instances, we can no longer procure repair parts with the original drawings. OMA funds must be expended then to update the technical data package. Also as system complexity increases, so the number of maintenance tasks increases at the field level. That increase triggers requirements in areas such as publications, training, and technical assistance.

Total requirements for maintenance support, stated in then year dollars, have increased from $569 million in FY 1980 to $727 million for FY 1983.

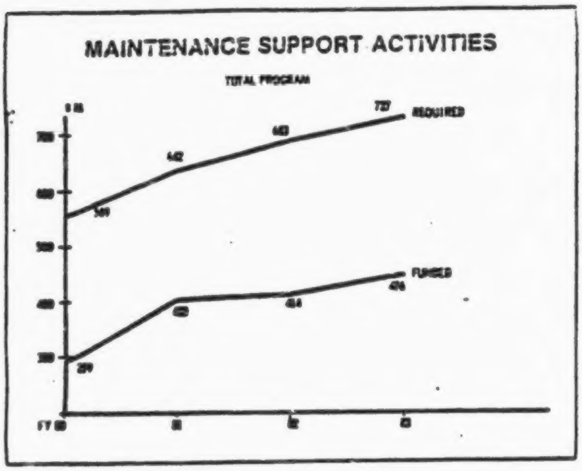


CHART 30

Although funding has increased from $299 to $476 million, there has not been substantial program growth in any year as the additional funding has been mostly offset by inflationary increases, particularly in the contract support area. No additional funding was requested or provided in either the FY 1981 Supplemental or the FY 1982 Amendment.

Since FY 1979, the number of major end items being managed by the Army, for which maintenance engineering, technical assistance, and publications support is required, has risen from 7,264 to 8,249. This increase of approximately 14 percent has occurred during a period when the in-house manpower necessary to provide maintenance support or manage contractor assistance has declined. As you know, Force Modernization does not replace systems on a one-for-one basis.

Resource shortfalls in Maintenance Support will be manifested in many ways. Delays in performing supportability analysis; slippage in provisioning; lack of adequate or timely publications; or, inadequate training and technical assistance impact both new and fielded systems. The bottom line is decreased readiness, inefficiency, and excessive cost.

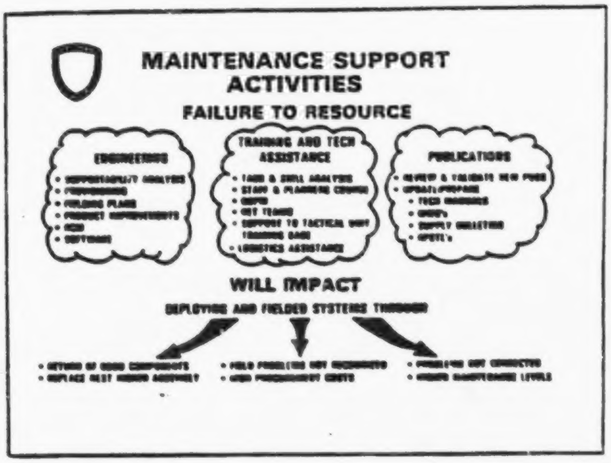

MAINTENANCE SUPPORT ACTIVITIES
FAILURE TO RESOURCE
ENGINEERING
TRAINING AND TECH ASSISTANCE
PUBLICATIONS
WILL IMPACT
DEPLOYING AND FIELDED SYSTEMS THROUGH

CHART 31

I thank you for the opportunity to appear here today. Mr. Chairman, I will be pleased to answer any questions you may have.

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SUBCOMMITTEE ON DEFENSE

STATEMENT OF
REAR ADMIRAL JAMES K. NUNNELEY, U. S. NAVY
DIRECTOR, SHIPS MAINTENANCE & MODERNIZATION DIVISION
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
BEFORE THE
SUBCOMMITTEE ON DEFENSE
OF THE
HOUSE APPROPRIATIONS COMMITTEE
ON
DEPARTMENT OF THE NAVY
SHIP DEPOT MAINTENANCE
10 JUNE 1982

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SUBCOMMITTEE ON DEFENSE

REAR ADMIRAL JAMES K. NUNNELEY, USN

Rear Admiral James Kenneth Nunneley was born in Tulsa, Oklahoma, and attended public schools there. He was graduated from the U. S. Naval Academy "with distinction" on 6 June 1952. Following graduation he joined USS TACONIC (AGC 17), an amphibious command ship, as Damage Control Assistant and Repair Division Officer, serving until June, 1954, when he reported to the Massachusetts Institute of Technology for duty under instruction in Naval Construction and Engineering.

He was graduated from MIT in June, 1957, with the professional degree of Naval Engineer and a Master of Science degree in Naval Architecture and Marine Engineering. He was simultaneously designated an Engineering Duty Officer. He was elected to Tau Beta Pi and Sigma Xi, honorary engineering and research societies, respectively. In July, 1957, he reported to Norfolk Naval Shipyard, Portsmouth, Virginia, where he served as Ship Superintendent and as Docking Officer until 1959.

He next reported to the cruiser USS NORTHAMPTON (CLC 1) as Main Propulsion Assistant, and subsequently became Engineer Officer of the ship. Detached in August, 1962, he reported to the staff of Commander, Cruiser-Destroyer Force, U. S. Atlantic Fleet, as Hull and Trials Officer. He next attended the Command and Staff Course at the Naval War College, Newport, Rhode Island. While there, he participated in the George Washington University cooperative program and earned a Master's degree in International Affairs.

From the Naval War College, he was ordered to the Bureau of Ships where he served in the office of Military Personnel. In August, 1967, he reported to the Naval Ship Engineering Center, serving first as Head Engineering Services Office, and later as Ship Design Manager for the nuclear powered frigate, USS VIRGINIA (CGN 38).

In May, 1971, he became Executive Assistant to the Commander, Naval Ship Systems Command. Detached in August, 1972, he reported to Norfolk Naval Shipyard as Repair Officer and later served as Planning Officer until reporting to the Puget Sound Naval Shipyard as Shipyard Commander in June, 1976. He was the Navy attendee at the Spring 1975 Sloan Program for Senior Executives, Sloan School of Management, Massachusetts Institute of Technology. In February, 1979, he was selected to the rank of Rear Admiral.

Rear Admiral Nunneley assumed his present position as Director, Ships Maintenance and Modernization Division, Office of the Chief of Naval Operations on 1 September 1980, following a tour of duty as Deputy Commander for Industrial and Facility Management, Naval Sea Systems Command.

Rear Admiral Nunneley is married to the former Kathryn Kilpatrick of Havertown, Pennsylvania. They have three married daughters.

JUNE 1982

VG 1

GOOD MORNING, MR. CHAIRMAN. I AM REAR ADMIRAL JAMES K. NUNNELEY. I SERVE ON THE STAFF OF THE CHIEF OF NAVAL OPERATIONS AS DIRECTOR OF THE SHIPS MAINTENANCE AND MODERNIZATION DIVISION. I AM CHARGED WITH RESPONSIBILITY FOR SHIP MAINTENANCE POLICY, INCLUDING THE DEVELOPMENT OF PLANS AND PROGRAMS FOR THE ACCOMPLISHMENT OF REPAIRS AND MODERNIZATION OF U. S. NAVY SHIPS.

WHILE THE SUBJECT OF TODAY'S HEARINGS IS "DEPOT MAINTENANCE", IT SHOULD BE NOTED THAT SHIP OVERHAULS ARE BUT ONE ELEMENT OF THE NAVY'S SHIP MAINTENANCE AND MODERNIZATION PROGRAM. THE SHIP MAINTENANCE STRATEGY OF THE NAVY INCLUDES THREE LEVELS OF MAINTENANCE: NAMELY, ORGANIZATIONAL LEVEL, INTERMEDIATE LEVEL AND DEPOT LEVEL. I WILL BRIEFLY DISCUSS EACH OF THESE.

VG 2

THE NAVY'S SHIP MAINTENANCE AND MODERNIZATION PROGRAM HAS TWO BASIC OBJECTIVES: FIRST, TO MAINTAIN AN ADEQUATE MATERIAL CONDITION IN THE FLEET AND THUS PROVIDE THE MAXIMUM NUMBER OF SHIPS AVAILABLE FOR OPERATIONS AT SEA; SECOND, TO MODERNIZE EXISTING SHIPS IN ORDER TO ENHANCE THEIR CAPABILITY SO THAT THEY CAN COUNTER CURRENT AND PROJECTED ENEMY THREATS. SHIPS ARE ALSO MODIFIED FOR REASONS OF SAFETY, ENVIRONMENT, RELIABILITY, AND MAINTAINABILITY.

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VG 3

THE NAVY'S POLICY IS TO MAINTAIN THE FLEET FULLY CAPABLE OF MEETING THE EXPECTED THREAT AND OUR SHIPS MUST BE IN A MATERIAL CONDITION SUFFICIENT TO ALLOW THEM TO ACCOMPLISH THEIR ASSIGNED MISSIONS. FURTHER, OUR POLICY DICTATES THAT THE REQUIRED MAINTENANCE AND MODERNIZATION WORK SHOULD BE PERFORMED AT THE LOWEST POSSIBLE LEVEL THROUGHOUT THE LIFE CYCLE OF THE SHIPS.

VG 4

THE PROGRAM WHICH IMPLEMENTS THIS POLICY IS CHARACTERIZED AS A BALANCED APPROACH TO MAINTENANCE AND MODERNIZATION. IT REQUIRES A CONTRIBUTION FROM EACH OF THE THREE LEVELS OF MAINTENANCE WITHIN THE NAVY. THE LOWEST LEVEL IS THE ORGANIZATIONAL LEVEL CONSISTING OF THE SHIP ITSELF AND THE SAILORS ON BOARD THE SHIP. AT THIS LEVEL IT IS WELL TO REMEMBER THAT ON BOARD SHIP, UNLIKE MOST OTHER ORGANIZATIONS, SAILORS NOT ONLY OPERATE THE EQUIPMENT BUT ALSO ARE CHARGED WITH SOME RESPONSIBILITY FOR MAINTENANCE. THIS IS NECESSARY TO ENSURE THAT EMERGENT REPAIRS CAN BE MADE BY OUR SAILORS WHEN SHIPS ARE OPERATING FAR FROM SUPPORT FACILITIES. THE SHORTAGE OF EXPERIENCED UNIFORMED PERSONNEL IN THE FLEET (CURRENTLY DETERMINED TO BE 20,000 PETTY OFFICERS IN FY 82) IS ADVERSELY AFFECTING ORGANIZATIONAL MAINTENANCE AND FORCING SOME OF IT TO BE TRANSFERRED TO A HIGHER LEVEL. THE NEXT LEVEL IS THE INTERMEDIATE MAINTENANCE LEVEL CONSISTING OF OUR TENDERS, REPAIR SHIPS AND SHORE INTERMEDIATE MAINTENANCE ACTIVITIES WHEREIN SAILORS WITH SPECIALIZED SKILLS ASSIST SHIPBOARD

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PERSONNEL BY ACCOMPLISHING INTERMEDIATE LEVEL REPAIR WORK, WHICH IS ESSENTIALLY WORK BEYOND THE CAPABILITY OF THE SHIP'S PERSONNEL. THE INTERMEDIATE MAINTENANCE ACTIVITIES MAY ALSO ABSORB ORGANIZATIONAL LEVEL WORK WHICH IS BEYOND THE CURRENT CAPACITY OF THE SHIP, DUE TO SUCH THINGS AS A HIGH TEMPO OF OPERATIONS OR A SHORTAGE OF SHIPBOARD PERSONNEL.

THE HIGHEST LEVEL OF MAINTENANCE IS THE DEPOT LEVEL CONSISTING OF NAVY AND COMMERCIAL SHIPYARDS PERFORMING CONVERSION, ALTERATION AND REPAIR WORK ON NAVY SHIPS. IN GENERAL, THE WORKLOAD IS ASSIGNED TO THESE SPECIFIC LEVELS ON THE BASIS OF THE CAPABILITIES AT EACH LEVEL AND THE EXTENT OF WORK REQUIRED. BY A BALANCED PROGRAM WE MEAN THAT THROUGHOUT THE OPERATING CYCLE OF A SHIP, MAINTENANCE TASKS ARE DIVIDED AMONG THE THREE LEVELS IN ORDER TO ACHIEVE THE HIGHEST POSSIBLE OPERATIONAL AVAILABILITY FOR THE RESOURCE INVESTMENT MADE.

VG 5

THE RELATIVE PROPORTION OF PREVENTIVE MAINTENANCE, REPAIRS AND ALTERATIONS ALLOTTED TO THE THREE LEVELS OF MAINTENANCE IS SHOWN HERE. GETTING MORE SHIPS RETURNED TO A MAINTAINABLE BASELINE CONDITION DURING THE OVERHAUL PERIOD IS NECESSARY, BUT IS IS NOT SUFFICIENT. WE ARE DEDICATED TO GETTING LARGER CONTRIBUTIONS AND GREATER OUTPUT FROM A BALANCED MAINTENANCE PROGRAM THAT WILL ACHIEVE OPTIMUM RETURN FROM ALL THREE LEVELS OF MAINTENANCE.

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IN ACCORDANCE WITH THE TASKING FOR THIS HEARING, I WILL ADDRESS THE DEPOT LEVEL IN SOME DETAIL AND, AS YOU REQUESTED, DISCUSS THE FUNDING PROFILE OF THE MAINTENANCE PROGRAM, AND PROVIDE MY VIEWS ON THE DEPOT LEVEL MAINTENANCE BACKLOG AS AN INDICATOR OF MATERIAL CONDITION.

THE DEPOT MAINTENANCE AND MODERNIZATION PROGRAM IS CLEARLY OUR LARGEST PROGRAM BECAUSE IT IS AT THIS LEVEL THAT THE MOST EXTENSIVE WORK IS ACCOMPLISHED, INCLUDING THE ACCOMPLISHMENT OF MAJOR ALTERATIONS TO THE SHIPS.

VG 6 AND VG 7

THE LOCATIONS OF THE SITES AT WHICH OUR DEPOT MAINTENANCE IS ACCOMPLISHED ARE DELINEATED IN VG 6 AND VG 7. VG 6 DISPLAYS THE LOCATION OF THE EIGHT NAVAL (PUBLIC) SHIPYARDS. VG 7 DELINEATES THE GEOGRAPHIC DISTRIBUTION OF THE PRINCIPAL COMMERCIAL YARDS (ABOUT 60) WITH WHOM THE NAVY DOES BUSINESS.

VG 8

DEPOT LEVEL MAINTENANCE CAN BE GROUPED INTO TWO BASIC CATEGORIES; PLANNED MAINTENANCE AND UNPLANNED MAINTENANCE. PLANNED MAINTENANCE IS SCHEDULED WELL IN ADVANCE AND TAKES INTO ACCOUNT THE SHIPS OPERATING SCHEDULE. UNPLANNED MAINTENANCE IS ASSIGNED WHEN A SHIP REQUIRES REPAIRS FOR AN UNFORESEEN BREAKDOWN.

PLANNED MAINTENANCE CAN BE SUBDIVIDED INTO TWO CATEGORIES; REGULAR OVERHAULS (ROH'S) AND SELECTED RESTRICTED AVAILABILITIES

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(SRA'S). A REGULAR OVERHAUL, AS THE WORDS IMPLY, IS A PERIOD ASSIGNED TO ACCOMPLISH GENERAL REPAIRS TO A SHIP'S SYSTEMS AND EQUIPMENTS AT A NAVAL SHIPYARD OR A PRIVATE SHIPYARD. REGULAR OVERHAULS ARE SCHEDULED FOR PLANNED DURATIONS AT SPECIFIC INTERVALS DURING A SHIP'S LIFETIME.

UNPLANNED MAINTENANCE CONSISTS OF RESTRICTED AVAILABILITIES (RAV'S) AND TECHNICAL AVAILABILITIES (TAV'S). RESTRICTED AVAILABILITIES ARE ASSIGNED FOR SPECIFIC REPAIRS WHICH REQUIRE THE SHIP TO BE PRESENT IN THE REPAIR ACTIVITY. HENCE, THE SHIP IS RENDERED INCAPABLE OF FULLY PERFORMING ITS ASSIGNED MISSION. TECHNICAL AVAILABILITIES ARE ASSIGNED FOR SPECIFIC REPAIRS WHEN THE PRESENCE OF THE SHIP IS NOT REQUIRED. IN THIS CASE, A PIECE OF EQUIPMENT MAY BE REMOVED FROM THE SHIP FOR REPAIR IN THE SHIPYARD. HOWEVER, THE SHIP IS CAPABLE OF CONTINUING TO PERFORM ITS ASSIGNED MISSION.

VG 9

IT IS ESSENTIAL THAT THE OPERATIONAL AVAILABILITY OF THE NAVY'S LIMITED SHIP ASSETS BE MAXIMIZED. THIS NEXT SLIDE ILLUSTRATES ONE OF THE TECHNIQUES WE ARE USING TO ACCOMPLISH THIS: THE USE OF AN ENGINEERED OPERATING CYCLE. UNDER A CONVENTIONAL CYCLE A SHIP WOULD OPERATE FOR A PERIOD OF TIME AFTER AN OVERHAUL, SHOWN HERE AS 37 MONTHS, BEFORE ENTERING A SHIPYARD FOR THE NEXT OVERHAUL. IN AN ENGINEERED CYCLE THE PERIOD BETWEEN OVERHAULS IS EXTENDED, TO 60 MONTHS FOR A TYPICAL DESTROYER AS SHOWN HERE. TO ENSURE ADEQUATE MATERIAL CONDITION IS MAINTAINED OVER THE LONGER PERIOD, SELECTED RESTRICTED AVAILABILITIES OF ABOUT TWO MONTHS DURATION

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ARE SCHEDULED FOR PLANNED, NON-DEPLOYED PERIODS. THESE NEW, LONGER CYCLES ARE INCREASING THE TIME OVER WHICH THE SHIPS CAN BE OPERATED WITHOUT INTERRUPTION FOR EXTENDED OVERHAUL PERIODS.

VG 10

THE PARAMETERS OF ENGINEERED OPERATING CYCLES CAN VARY SIGNIFICANTLY DEPENDING ON THE SHIP TYPE INVOLVED AND ITS NORMAL OPERATIONAL SCENARIO. THE FIRST SHIPS TO ENTER AN EOC WERE THE BALLISTIC MISSILE SUBMARINES IN THE EARLY 1970'S. THE PROGRAMS FOR THESE SHIPS RESULTED IN AN OPERATIONAL CYCLE OF 6 TO 9 YEARS WITH PLANNED AVAILABILITIES OF A NOMINAL 60-DAY DURATION EVERY 24 MONTHS UNTIL THE NEXT OVERHAUL. FOR SOME OF THESE SHIPS THE INTERVAL BETWEEN OVERHAULS HAS BEEN EXTENDED RECENTLY TO TWELVE YEARS.

THE NEXT SHIPS TO ENTER AN EOC PROGRAM WERE ATTACK SUBMARINES. THEIR PROGRAM EXTENDED THE INTERVAL BETWEEN OVERHAULS FROM 43 TO 70 MONTHS FOR THOSE SHIPS INCLUDED. WITHIN THIS 70-MONTH OPERATING CYCLE, THESE SHIPS ARE SCHEDULED FOR A 60-DAY DEPOT AVAILABILITY EVERY 22 MONTHS. PRESENTLY PLANS ARE UNDERWAY TO PLACE CERTAIN ATTACK SUBMARINES IN A PROGRAM SIMILAR TO THAT DESIGNED FOR THE BALLISTIC MISSILE SUBMARINES. THESE SHIPS WILL HAVE THEIR OPERATING CYCLE FURTHER EXTENDED TO 84 MONTHS.

THE FFG 7 CLASS SHIPS PRESENTLY ENTERING THE FLEET HAVE BEEN DESIGNED FOR REDUCED CREWS AND LIMITED SHIP'S FORCE MAINTENANCE

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CAPACITY. AS A RESULT, THESE SHIPS WILL UNDERGO A PROGRESSIVE OVERHAUL DURING A SERIES OF SHORT DEPOT LEVEL AVAILABILITIES AT TWO-YEAR INTERVALS WHICH EMPHASIZE EQUIPMENT CHANGEOUT VICE CONVENTIONAL REPAIR-IN-PLACE METHODS. UNDER THIS CONCEPT THE SHIP AND ITS EQUIPMENT WILL BE UNDERGOING CONTINUOUS OVERHAUL AT ANY GIVEN POINT IN THE SHIP'S MAINTENANCE SCHEDULE. MAJOR MODERNIZATION PERIODS ARE SCHEDULED FOR THIS SHIP CLASS AT APPROXIMATELY TEN-YEAR INTERVALS.

ANOTHER VARIANT OF THE EOC CONCEPT IS THE PHASED MAINTENANCE PROGRAM CURRENTLY BEING APPLIED TO THE ATLANTIC FLEET COMBAT STORES SHIPS OPERATING OUT OF NORFOLK. THERE ARE ONLY THREE OF THESE SHIPS IN THE ATLANTIC FLEET AND THERE IS A REQUIREMENT TO MAINTAIN ONE SHIP ON STATION IN THE MEDITERRANEAN AT ALL TIMES. WHEN ONE OF THE SHIPS IS IN OVERHAUL THE TWO REMAINING SHIPS WOULD BE REQUIRED TO MAKE BACK-TO-BACK DEPLOYMENTS. TO ALLEVIATE THIS PROBLEM, AND ALSO IN RESPONSE TO A HOUSE APPROPRIATIONS COMMITTEE DIRECTION TO CONDUCT A TEST OF MERCHANT MARINE SHIP MAINTENANCE PRACTICES, THESE SHIPS HAVE BEEN PLACED IN A PROGRAM WHICH FEATURES A FIVE-YEAR OPERATING CYCLE WITH A FOUR-MONTH REDUCED SCOPE OVERHAUL AT THE END OF THAT PERIOD. THREE, 2 TO 3 MONTH DEPOT AVAILABILITIES ARE ALSO SCHEDULED DURING THE NORMAL AT-HOME PERIODS. THIS PROGRAM ALSO UTILIZES THE PORT ENGINEER CONCEPT OF MANAGEMENT BY CIVILIAN PORT ENGINEERS ASSIGNED TO THE OPERATIONAL COMMANDER'S STAFF. THE PROGRAM HAS BEEN UNDERWAY

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FOR ABOUT TWO AND ONE-HALF YEARS NOW AND ITS FIRST FORMAL EVALUATION IS BEING CONDUCTED AT THE PRESENT TIME. BECAUSE OF THE POTENTIAL PAYOFF OF THIS PROGRAM IN ASSISTING THE OPERATIONAL COMMANDER TO MORE EFFICIENTLY INTEGRATE OPERATIONAL AND MAINTENANCE SCHEDULING, AND DUE TO THE INCREASED COMMITMENTS IN THE INDIAN OCEAN, WE ARE NOW EXTENDING PORTIONS OF THE CONCEPT TO THE FOUR PACIFIC FLEET COMBAT STORES SHIPS. PLANS ARE ALSO UNDERWAY TO IMPLEMENT THE PROGRAM ON THE SEVEN REPLENISHMENT OILERS (AOR'S) BEGINNING IN FISCAL YEAR 1984.

VG 11

WE ARE EXPANDING EOC CONCEPTS TO OTHER EXISTING SHIP CLASSES, MOST NOTABLY THE AMPHIBIOUS AND AUXILIARY SHIP TYPES. FOR NEW SHIPS, SUCH AS THE CG 47 CLASS, THE ENGINEERING NECESSARY TO SUPPORT AN EOC PROGRAM IS BEING ACCOMPLISHED DURING CONSTRUCTION. WE HAVE MADE SIGNIFICANT PROGRESS IN DEVELOPING AND INTRODUCING EOC PROGRAMS. BY THE END OF FISCAL YEAR 1984, ABOUT ONE-HALF OF THE FLEET, WILL HAVE ENTERED ENGINEERED OPERATING CYCLE PROGRAMS.

VG 12

ALTHOUGH EOC PROGRAMS ARE SUCESSFUL IN HELPING THE OPERATIONAL COMMANDER OBTAIN MAXIMUM AVAILABILITY FROM HIS SHIPS, THEY ARE NOT WITHOUT DRAWBACKS.

SOME MODERNIZATION REQUIREMENTS CANNOT WAIT FOR FIVE TO TEN YEARS, WHICH IS THE EXTENDED PERIOD BETWEEN MAJOR OVERHAULS FOR

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EOC SHIPS. RATHER, SHIP ALTERATIONS MUST BE INSTALLED DURING THE SHORT, INTRA-CYCLE DEPOT MAINTENANCE PERIODS. THIS MAY MEAN INSTALLING THEM INCREMENTALLY DURING SEVERAL AVAILABILILTIES, DOING EXTENSIVE PREFABRICATION, PACKAGING THE MATERIAL AND SOFTWARE IN SUCH A WAY AS TO MINIMIZE INSTALLATION TIME, OR COMBINATIONS OF ALL THESE APPROACHES.

FOR A SHORT AVAILABILITY TO BE SUCCESSFUL, EFFECTIVE MATERIAL PLANNING AND MANAGEMENT PROCEDURES MUST BE USED. ALL MATERIAL MUST BE THERE WHEN THE AVAILABILITY STARTS. ADDITIONALLY, MORE CONTINGENCY MATERIAL MUST BE AVAILABLE TO OFFSET LONG MATERIAL LEAD TIMES FOR SOME COMPONENTS.

ENGINEERING MUST BE COMPLETED TO ENSURE THAT THE WORK PACKAGES DEVELOPED FOR THE SHORT INTRA-CYCLE AVAILABILITIES INCLUDE AND PLAN FOR ACCOMPLISHMENT OF ITEMS WHICH COULD AFFECT THE ABILITY OF THE SHIP TO SUCCESSFULLY OPERATE THROUGH THE LONGER OPERATIONAL CYCLE. DRAWINGS AND WORK INSTRUCTIONS MUST BE COMPLETED WHEN THE AVAILABILITY STARTS. SPECIAL PROCEDURES FOR EXPEDITING DECISIONS MUST BE USED.

IN GENERAL, THE INCREASED NUMBER OF SHORT, LABOR INTENSIVE AVAILABILITIES WHICH MUST BE PLANNED AND EXECUTED REQUIRE INCREASED MANAGEMENT ATTENTION TO ENSURE THEIR SUCCESS. THIS IS IN TURN EXACERBATING AN ALREADY DIFFICULT MANNING SITUATION IN THE NAVAL SHIPYARDS AND IN THE OFFICES OF THE SUPERVISORS OF SHIPBUILDING, CONVERSION AND REPAIR WHO ADMINISTER NAVY WORK AT

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PRIVATE SHIPYARDS. NEXT, I WILL DISCUSS BRIEFLY THE FISCAL SIDE OF SHIP MAINTENANCE AND MODERNIZATION, AND THE NAVY'S PRICING POLICY ON SHIP OVERHAULS.

THE PROCESS OF DETERMINING OUR FUNDING REQUIREMENTS BEGINS FAR IN ADVANCE OF THE BUDGET SUBMISSION AND, OF COURSE, WELL IN ADVANCE OF INDUCTING INDIVIDUAL SHIPS INTO THE OVERHAUL SCHEDULE IN THE YEAR OF EXECUTION.

THE CENTRAL POINT OF FOCUS FOR DETERMINING SHIP OVERHAUL REQUIREMENTS IS AT THE TYPE COMMANDER LEVEL. EACH TYPE COMMANDER IS STAFFED WITH PERSONNEL WHO ARE ASSIGNED RESPONSIBILITY FOR THE MATERIAL MANAGEMENT OF SHIP TYPES, FOR EXAMPLE, FRIGATES, CARRIERS AND SUBMARINES, THROUGHOUT THE OPERATING CYCLE; THESE PERSONNEL MAINTAIN FAMILIARITY WITH SPECIFIC PROBLEM AREAS ON INDIVIDUAL SHIPS UNDER THEIR COGNIZANCE. THEY ALSO STAY IN CLOSE COMMUNICATION WITH THE SHIP'S COMMANDING OFFICER AND CREW WHO MAINTAIN AN AUTOMATED DATA BASE OF MATERIAL DISCREPANCIES ON SYSTEMS AND EQUIPMENTS TO BE CORRECTED AT EACH OF THE THREE LEVELS OF MAINTENANCE.

VG 13

FOR A SCHEDULED OVERHAUL, IT IS THE RESPONSIBILITY OF THE TYPE COMMANDER AND THE SHIP'S FORCE TO DEVELOP THE REPAIR PACKAGE. THIS IS ACCOMPLISHED BY SELECTING ITEMS REQUIRING ACCOMPLISHMENT FROM THE AUTOMATED FILE AND BY IDENTIFYING ADDITIONAL WORK THROUGH THE USE OF A SERIES OF PRE-OVERHAUL TESTS AND INSPECTIONS, KNOWN AS A POT&I. ACCOMPLISHMENT OF

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THE POT&I IS COORDINATED FOR THE TYPE COMMANDER BY PLANNING ACTIVITIES KNOWN AS PLANNING AND ENGINEERING FOR REPAIRS AND ALTERATIONS (PERA'S). TOTAL FLEET COVERAGE IS PROVIDED BY FIVE PERA'S, EACH SPECIALIZING IN A SHIP TYPE.

SIMILARLY, THE MODERNIZATION PACKAGE IS DEVELOPED THROUGH THE COORDINATED EFFORTS OF THE TYPE COMMANDER STAFF, THE COMMANDER, NAVAL SEA SYSTEMS COMMAND AND THE CHIEF OF NAVAL OPERATIONS WELL BEFORE THE COMMENCEMENT OF THE OVERHAUL.

FOLLOWING COMPLETION OF THE PRE-OVERHAUL TESTS, AND IDENTIFICATION OF THE MODERNIZATION PACKAGE, THE PERA ASSEMBLES AND INTEGRATES ALL REQUIREMENTS IN A PRELIMINARY WORK PACKAGE. THIS COORDINATED PACKAGE IS PROVIDED TO THE ACCOMPLISHING NAVAL SHIPYARD OR SUPERVISOR OF SHIPBUILDING WHO ESTIMATES THE COSTS INVOLVED IN ACCOMPLISHING THE SPECIFIED WORK. FOR MODERNIZATION ITEMS THESE ESTIMATES ARE PROVIDED TO THE NAVAL SEA SYSTEMS COMMAND FOR AUTHORIZATION AND FUNDING. THE PROPOSED REPAIR PACKAGE THEN BECOMES THE SUBJECT OF A WORK DEFINITION CONFERENCE CONDUCTED WITH THE TYPE COMMANDER, SHIP, PERA AND ACCOMPLISHING ACTIVITY IN ATTENDANCE. THE RESULTS OF THIS CONFERENCE THEN FORM THE AUTHORIZED REPAIR PACKAGE AND THE ESTIMATED PRICE TO ACCOMPLISH THE DEFINED WORK.

SHIP MAINTENANCE AND MODERNIZATION FUNDS ARE PROVIDED VIA THE NAVY COMPTROLLER TO CNO WHO IN TURN PROVIDES SUCH FUNDS TO THE FLEET COMMANDS AND TO THE CHIEF OF NAVAL MATERIAL FOR SHIP

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MAINTENANCE AND MODERNIZATION RESPECTIVELY. THE FLEET COMMAND WILL, FOR MAINTENANCE, AND NAVAL SEA SYSTEMS COMMAND WILL FOR MODERNIZATION, FUND THE PLANNING ESTIMATE DIRECTLY TO THE INDUSTRIAL ACTIVITY.

UPON COMPLETION OF EACH OVERHAUL, THE SHIPYARD PREPARES A DEPARTURE REPORT WHICH PROVIDES A BREAKDOWN OF DIRECT LABOR MAN-DAYS AND COSTS REQUIRED FOR EACH JOB ORDER. THE DEPARTURE REPORT PROVIDES DETAILED OVERHAUL DATA SUCH AS MAN-DAYS, MATERIAL AND ASSOCIATED COSTS FOR SPECIFIC JOB ORDERS. THESE DATA, IN TURN, ARE USED AS THE BASIS FOR DEVELOPMENT OF FUTURE BUDGET REQUIREMENTS.

WORK ON THE 1983 PRESIDENT'S BUDGET, BEGAN IN NOVEMBER 1980. IT IS A DIFFICULT TASK TO PREDICT REQUIREMENTS BY INDIVIDUAL SHIP SO FAR IN ADVANCE. IT SHOULD BE NOTED THAT THE REQUIREMENT IS REVIEWED AT THREE LEVELS PRIOR TO SUBMISSION TO THE CONGRESS; NAMELY NAVY PROGRAM AND COMPTROLLER OFFICES, OSD PROGRAM AND COMPTROLLER OFFICES, AND THE OFFICE OF MANAGEMENT AND BUDGET.

VG 14

THIS SLIDE PROVIDES AN OVERVIEW OF THE COST OF THE NAVY'S SHIP MAINTENANCE AND MODERNIZATION PROGRAM. THE DATA REPRESENTS FY 83 CONGRESSIONAL BUDGET SUBMIT CONTROL TOTALS. THE PROGRAM FOR FY 83 SHOWS 68 OVERHAULS INCLUDING TWO AIRCRAFT CARRIERS, THREE FLEET BALLISTIC SUBMARINES, NINE NUCLEAR ATTACK SUBMARINES, THIRTY-FOUR SURFACE COMBATANTS AND ONE DIESEL SUBMARINE.

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THE TOTAL NUMBER OF OVERHAULS HAS REMAINED RELATIVELY CONSTANT: 67 IN FY 81, 63 IN FY 82 AND 66 IN FY 83. THE DOLLAR VALUE OF THE PROGRAM IS MORE A FUNCTION OF THE SHIP MIX THAN THE ABSOLUTE NUMBER OF OVERHAULS. FURTHER, OTHER FACTORS ARE CHANGING THE DISTRIBUTION OF FUNDING REQUIRED. OVERHAUL DURATIONS ARE BEING SHORTENED ON SOME SHIPS WITH A CONCURRENT REDUCTION IN REPAIR AS WELL AS ALTERATION PACKAGES. ADDITIONAL SHIPS HAVE BEEN APPROVED FOR PLACEMENT ON PHASED MAINTENANCE AND EXTENDED OPERATING CYCLES. THE NET RESULT IS A REDUCTION OF OVERHAUL REQUIREMENTS, BUT A CORRESPONDING INCREASE IN THE SELECTED RESTRICTED AVAILABILITIES REQUIREMENTS.

THE CHIEF OF NAVAL OPERATIONS HAS ESTABLISHED PLANNING FACTORS FOR OVERHAUL DURATIONS AND INTERVALS FOR EACH CLASS OF SHIP IN THE NAVY. THESE PLANNING FACTORS ARE KEY ELEMENTS IN BUILDING LONG-RANGE SCHEDULES FOR OVERHAULS AND SELECTED RESTRICTED AVAILABILITIES THAT DOVETAIL WITH THE FLEET OPERATING SCHEDULES AND PROJECT THE WORKLOAD FOR THE INDUSTRIAL ACTIVITIES. THEY ARE BASED UPON TECHNICAL INFORMATION, ENGINEERING JUDGEMENT, OPERATING EXPERIENCE AND MODERNIZATION REQUIREMENTS FOR EACH CLASS. PLANNING FACTORS ARE REGULARLY ANALYZED AND RESTUDIED FROM OPERATIONAL, MATERIAL AND DESIGN STANDPOINTS TO DETERMINE WHEN CHANGES ARE REQUIRED.

VG 15

THE SUBJECT OF SHIP OVERHAUL SCHEDULING IS A SIGNIFICANT PLANNING FACTOR IN THE PROGRAM. IN EARLY FALL, EACH YEAR, KEY NAVY

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PARTICIPANTS MEET TO SCHEDULE OVERHAULS AND SELECTED RESTRICTED AVAILABILITIES. PARTICIPANTS INCLUDE PERSONNEL FROM MY STAFF, THE NAVAL SEA SYSTEMS COMMAND HEADQUARTERS, THE FLEET COMMANDERS AND THE TYPE COMMANDERS, NAVAL SHIPYARDS AND THE SUPERVISORS OF SHIPBUILDING. USING THE PLANNING FACTORS AND THE SHIP'S LONG-RANGE OPERATION SCHEDULE, A FIVE-YEAR OVERHAUL PROGRAM IS CONSTRUCTED. MAJOR EMPHASIS IS PLACED ON THE YEAR FOR WHICH THE BUDGET IS BEING DEVELOPED. IT IS IMPORTANT TO NOTE THAT THE MAINTENANCE REQUIREMENTS ARE PRESENTED BY THE SHIP TYPE COMMANDERS, THE ORGANIZATION MOST INTIMATELY AWARE OF THE INDIVIDUAL SHIP REQUIRMENTS.

SUBSEQUENT TO THE FORMULATION OF THE OVERHAUL SCHEDULE, THE COMMANDER, NAVAL SEA SYSTEMS COMMAND, WITH INPUTS FROM THE FLEETS AND APPROVAL OF CNO, DETERMINES THE DISTRIBUTION OF THE WORKLOAD TO BOTH PUBLIC AND PRIVATE YARDS. THERE ARE FOUR SIGNIFICANT CRITERIA USED IN DETERMINING DISTRIBUITON OF THE WORKLOAD: THREE ARE OPERATIONAL CONSIDERATIONS, YARD QUALIFICATIONS, AND HOME-PORTING REQUIREMENTS WHICH SPECIFY THAT MAXIMUM REGARD BE GIVEN TO OVERHAULING SHIPS AT OR NEAR THEIR HOME PORTS IN ORDER TO MINIMIZE PERTURBATIONS ON THE CREWS WITH RESULTANT ADVERSE EFFECT ON RETENTION.

THE FOURTH CONSIDERATION IN THE DISTRIBUTION OF WORKLOAD IS TO ENSURE THAT ADEQUATE PUBLIC AND PRIVATE SHIP MAINTENANCE CAPABILITY AND CAPACITY TO SUPPORT NAVY REQUIREMENTS IN THE LONG-TERM IS PROVIDED. IN ACCORDANCE WITH EXISTING POLICY, NO MORE THAN

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70% OF SHIP MAINTENANCE FUNDS ARE ASSIGNED TO THE PUBLIC SECTOR AND AT LEAST 30% TO THE PRIVATE SECTOR. THE APPROPRIATION ACT NORMALLY INCLUDES A DOLLAR CEILING ON MAINTENANCE AND MODERNIZATION FUNDS EXPENDED IN NAVAL SHIPYARDS.

VG 16

THIS VG DISPLAYS THE DISTRIBUTION OF SHIP REPAIRS AND ALTERATIONS BETWEEN THE PUBLIC AND PRIVATE SHIPYARDS DURING THE LAST TWO FISCAL YEARS, AND THE PROJECTIONS FOR FY 82.

VG 17

VG 17 SHOWS THE FUNDING DISTRIBUITON BETWEEN REPAIRS AND ALTERATIONS BOTH PUBLIC AND PRIVATE.

WITH RESPECT TO THE WORKLOAD IN THE PRIVATE SHIPBUILDING AND SHIP REPAIR INDUSTRY IT IS NOTED THAT THE NUMBER OF EMPLOYEES, AS RECORDED BY THE BUREAU OF LABOR AND STATISTICS, INCREASED FROM 166,000 IN 1979 TO 172,000 IN 1980, AND AGAIN TO 176,400 AT THE END OF NOVEMBER 1981. ALTHOUGH WE HAVE TRADITIONALLY ASSIGNED OUR MORE COMPLEX WARSHIPS TO NAVAL SHIPYARDS, THE PROPORTION OF COMPLEX WARSHIPS IN THE FLEET HAS BEEN INCREASING SINCE THE MID-SEVENTIES, AND IT IS CLEAR THAT MORE COMPLEX SHIPS WILL GO TO PRIVATE SHIPYARDS FOR OVERHAUL. THE NAVY RECOGNIZES THAT POSITIVE ACTION WILL BE REQUIRED FOR SHIPYARDS TO DEVELOP THE NECESSARY EXPERIENCE, SKILLS, AND FACILITIES TO PERFORM COMPLEX SHIP OVERHAULS ON A ROUTINE BASIS.

WE ALSO RECOGNIZE THAT THE SUPSHIP ORGANIZATION, WHICH IS

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RESPONSIBLE FOR THE ADMINISTRATION OF SHIPWORK CONTRACTS ASSIGNED TO PRIVATE YARDS, MUST BE STRENGTHENED, BOTH IN NUMBERS AND QUALITY. THERE WILL TO BE A HEAVIER INVOLVEMENT OF THE SUPSHIP ORGANIZATION IN THE DETERMINATION OF REPAIR WORK, PREPARATIONS OF SPECIFICATIONS AND CONTRACT ADMINISTRATION OF COMPLEX OVERHAULS WHICH WILL PLACE A HEAVIER DEMAND ON SUPSHIP PERSONNEL. RECENT AUDITS HAVE SHOWN CLEARLY THAT MANY OF THE SUPSHIP OFFICES ARE UNDERSTAFFED TO CARRY OUT THEIR RESPONSIBILITIES. RESPONDING TO PRESSURE FROM THIS COMMITTEE, THE NAVY HAS DEVELOPED AN EFFECTIVE SYSTEM FOR RELATING SUPSHIP STAFFING REQUIREMENTS TO WORKLOAD. WE EXPECT TO USE THIS SYSTEM TO JUSTIFY TO THIS COMMITTEE SUPSHIPS STAFFING REQUIREMENTS IN THE FUTURE.

IN APRIL 1981, WE CONDUCTED OUR FIRST ANNUAL PRIVATE SECTOR OVERHAUL PLANNING CONFERENCE TO DEVELOP A COMPREHENSIVE PLAN FOR FUTURE PRIVATE OVERHAULS. THE PLAN HAS BEEN GIVEN TO PRIVATE INDUSTRY TO HELP THEM IN LONG-TERM PLANNING. IT TAKES INTO ACCOUNT THAT SHIPS ASSIGNED TO THE PRIVATE SECTOR FOR OVERHAUL WILL BE OVERHAULED IN THEIR HOME PORTS TO THE EXTENT THAT SUFFICIENT COMPETITIVE INDUSTRIAL CAPABILITY AND CAPACITY ALLOW. THIS POLICY MINIMIZES THE HARDSHIP OF FAMILY SEPARATION, PARTICULARLY AFTER OUR SAILORS HAVE SPENT MANY ARDUOUS MONTHS AT SEA IN SUPPORT OF NATIONAL COMMITMENTS.

NAVY WORKLOAD PLANNING DOCUMENTS WILL BE PROVIDED ANNUALLY TO PRIVATE INDUSTRY TO GUIDE THEM IN DEVELOPING THEIR BUSINESS PLANS. THIS INCREASED PLANNING EFFORT BY THE NAVY AND PRIVATE

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CONTRACTORS SHOULD LEAD TO IMPROVED PRIVATE SECTOR OVERHAUL PERFORMANCE.

IN THE EIGHT PUBLIC SHIPYARDS, THE FISCAL YEAR 1983 PROGRAM IS EXECUTABLE WITHIN THE CURRENT PERSONNEL AUTHORIZATIONS REQUESTED IN THE PRESIDENT'S BUDGET.

IN THE PRIVATE SECTOR THE FISCAL YEAR 1983 PROGRAM IS EXECUTABLE WITH THE CURRENTLY ASSIGNED NUMBERS OF SUPSHIP (SUPERVISOR OF SHIPBUILDING) PERSONNEL. TO SUPPORT THE LARGER PRIVATE SECTOR WORKLOAD FOR FISCAL YEAR 1984, SUPSHIP EMPLOYMENT SHOULD INCREASE BY ABOUT 10 PERCENT, SOME 400 PEOPLE, TO PROPERLY CONTRACT FOR AND MANAGE THE PRIVATE SECTOR REPAIR AND NEW CONSTRUCTION WORKLOAD. SHIP OVERHAUL CONTRACTS TO PRIVATE SHIPYARDS WILL CONSIST PRIMARILY OF WORK ON SURFACE COMBATANT SHIPS THAT CANNOT BE ACCOMMODATED BY PUBLIC SHIPYARDS AND WORK ON AMPHIBIOUS WARFARE, LOGISTIC SUPPORT SHIPS, AND SERVICE CRAFT.

THE FLEET MODERNIZATION PROGRAM (FMP), THE COMPANION TO TO THE MAINTENANCE PROGRAM, IS THE NAVY'S PROGRAM TO IMPROVE MISSION CAPABILITIES OF EXISTING SHIPS TO COUNTER BOTH CURRENT AND PROJECTED ENEMEY THREATS. THE MODERNIZATION PROGRAM ALSO INSTALLS ALTERATIONS RELATED TO SAFETY, RELIABILITY AND MAINTAINABILITY PLUS POLLUTION ABATEMENT.

THE FMP HAS BEEN HIGHLY SUCCESSFUL IN MEETING ITS OBJECTIVES OF UPGRADING THE FLEET'S MILITARY CAPABILITIES AND OVERALL

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READINESS. A MEASURE OF THIS SUCCESS IS THE FACT THAT APPROXIMATELY 2,500 ALTERATIONS ARE BEING INSTALLED ANNUALLY AND THAT THE NUMBER OF ALTERATIONS ACCOMPLISHED CLOSELY APPROXIMATES THE NUMBER ORIGINALLY PROGRAMMED. THIS IS NOT TO SAY THAT ALTERATIONS ARE NOT BEING DEFERRED FOR SUCH REASONS AS SCHEDULE CHANGES OR NON-AVAILABILITY OF MATERIAL, BUT GENERALLY SPEAKING WE ARE CARRYING OUT THE FMP AS PLANNED.

IN ORDER TO IMPROVE EFFECTIVENESS, THIS COMPLEX PROGRAM IS CONSTANTLY BEING MONITORED TO IDENTIFY WEAKNESSES AND INITIATE CORRECTIVE ACTIONS. CURRENT IMPROVEMENT EFFORTS ARE FOCUSED ON REDUCING THE NUMBER OF ALTERATIONS WHICH MUST BE DEFERRED AND IMPROVING MATERIAL MANAGEMENT. ACTIONS BEING TAKEN INCLUDE:

- INITIATION OF FLEET VERIFICATION CONFERENCES TO REVIEW STATUS OF SHIP ALTERATION PACKAGES 13-15 MONTHS PRIOR TO START OF OVERHAULS.
- IMPROVING TRACKING PROGRAMS TO INSURE INTEGRATION OF PROCUREMENT AND INSTALLATION PROCESSES.
- IMPROVING TIMELINESS AND QUALITY OF TECHNICAL GUIDANCE PROVIDED TO INSTALLING ACTIVITIES.
- IMPROVING ALTERATION COST ESTIMATES BY INSURING THAT RETURN COST INFORMATION IS AVAILABLE.
- IMPROVING ALTERATION MATERIAL MANAGEMENT BY EMPHASIZING PROPER ORDERING PROCEDURES AND PROVIDING GREATER VISIBILITY AND USE OF SHIPYARD MATERIAL TO SUPPLY SYSTEM MANAGERS.

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IN SUMMARY, DESPITE INHERENT PROGRAM CONSTRAINTS SUCH AS ESCALATING COSTS, EXTENDED PERIODS BETWEEN OVERHAULS, SCHEDULE CHANGES, AND BUDGET PERTURBATIONS, THE FLEXIBILITY AND EFFECTIVENESS OF THE FMP IS APTLY DEMONSTRATED BY ITS ABILITY TO RESPOND RAPIDLY TO CHANGING REQUIREMENTS AND, THE FACT THAT WE ARE ABLE TO UPGRADE OUR SHIPS TO MEET THE CHANGING THREAT OF OUR POTENTIAL ADVERSARIES.

IN ORDER TO ENSURE THE CONTINUED EFFECTIVE EXECUTION OF THE SHIP MAINTENANCE AND MODERNIZATION PROGRAM, IT IS NECESSARY THAT THE SHIPYARD PLANTS AND FACILITIES BE MODERNIZED TO TODAY'S STANDARDS. THIS IS ACCOMPLISHED THROUGH THE SHIPYARD MODERNIZATION PROGRAM. THIS PROGRAM BEGAN IN THE EARLY 1970'S AND IS A CAPITAL INVESTMENT PROGRAM DESIGNED TO REPLACE OR IMPROVE OLD AND OBSOLESCENT FACILITIES AND EQUIPMENT TO:

A. CORRECT URGENT DEFICIENCIES IN THE NAVAL SHIPYARD'S CAPABILITY TO SUPPORT U. S. NAVY SHIPS.

B. PROVIDE THE NAVAL SHIPYARDS WITH NEW CAPABILITIES TO SUPPORT NEW SHIP CLASSES.

C. IMPROVE NAVAL SHIPYARD EFFICIENCY AND PRODUCTIVITY.

D. ENHANCE NAVAL SHIPYARD CAPABILITY TO MEET MOBILILZATION REQUIREMENTS.

THE INITIAL CONCEPT WAS TO FUND THE PROGRAM TO A LEVEL THAT WOULD PROVIDE A COMPLETE MODERNIZED SHIPYARD COMPLEX BY

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FY 1979. REDUCED FUNDING COUPLED WITH INFLATION MADE IT IMPOSSIBLE TO MEET THIS GOAL AND THE CURRENT PROJECTION IS THAT THE PROGRAM WILL NOT BE COMPLETE UNTIL EARLY IN THE 1990'S.

WE FULLY SUPPORT THE CONCEPT THAT SHIPYARDS BE MANAGED AS A BUSINESS. IN FACT, THAT IS THE NAVY'S OBJECTIVE. BEGINNING IN FY 1983 WE WILL PASS ON TO THE CUSTOMER THE COST OF ACQUIRING NEW INDUSTRIAL PLANT EQUIPMENT THROUGH THE NAVAL INDUSTRIAL FUND RATHER THAN BY USE OF APPROPRIATED FUNDS, AS IN THE PAST. (HERETOFORE, THE PROGRAM HAS BEEN FUNDED FROM THREE APPROPRIATIONS: MILCON FOR FACILITIES; OPN FOR PLANT EQUIPMENTS; AND O&M,N FOR EXPENSE ITEMS AND EQUIPMENT INSTALLATION AND RELOCATION). THE BUDGET TARGETS FOR INDUSTRIAL PLANT EQUIPMENT ACQUISITION IN FISCAL YEAR 1984 AND THE FOLLOWING YEARS ARE APPROXIMATELY 5-PERCENT OF ESTIMATED GROSS ANNUAL SHIPYARD REVENUES. THE 5-PERCENT ANNUAL EQUIPMENT INVESTMENT FIGURE IS A GENERALLY RECOGNIZED AND ACCEPTED CRITERION IN PRIVATE INDUSTRY. THIS LEVEL OF INVESTMENT WILL ENSURE PLANT MODERNIZATION AND ENABLE THE NAVY TO BENEFIT FROM NEW MANUFACTURING TECHNOLOGIES AND PROCESSES. THE FUNDING OF MILITARY CONSTRUCTION AT NAVAL SHIPYARDS THROUGH A SEPARATE APPROPRIATION SHOULD BE CONTINUED SINCE SUCH EXPENDITURES ARE SIGNIFICANT IN NATURE AND SHOULD, APPROPRIATELY, BE IDENTIFIED AND AUTHORIZED BY THE CONGRESS IN A SEPARATE APPROPRIATION.

BRIEFLY, I WILL ADDRESS DEPOT LEVEL MAINTENANCE BACKLOG. WE USE THIS AS A GROSS INDICATOR OF UNACCOMPLISHED MAINTENANCE

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AT THE DEPOT LEVEL. A SHIP IS INCLUDED IN THE OVERHAUL BACKLOG WHEN ITS OVERHAUL IS DELAYED FROM THE FISCAL YEAR IN WHICH THE ESTABLISHED OVERHAUL CYCLE DICTATES. A DELAY IN OVERHAUL CAN BE CAUSED BY A FUNDING SHORTAGE OR AN OPERATIONAL REQUIREMENT. WE HAVE TOO FEW SHIPS TO CARRY OUT NATIONAL COMMITMENTS AND THOSE WE HAVE ARE STRETCHED THIN. THE NET RESULT IS THAT SOME SHIPS MUST BE DELAYED IN ENTERING OVERHAUL FOR OPERATIONAL REASONS. ANY SUBSTANTIVE DELAY IN THE SCHEDULED OVERHAUL OF A SHIP MEANS THAT SCHEDULED MAINTENANCE AND REPAIRS OF SHIP EQUIPMENTS, SUCH AS WEAPONS SYSTEMS, RADAR, SONAR, MAIN PROPULSION EQUIPMENTS AND COMMUNICATION COMPONENTS WILL BE DELAYED THUS IMPACTING ON MATERIAL CONDITION AND IN TURN ON READINESS.

DEPOT LEVEL MAINTENANCE BACKLOG ALSO REPRESENTS UNACCOMPLISHED MODERNIZATION OF OUR SHIPS. SUCH UNACCOMPLISHED UPDATING OF OUR SHIPS IS A GROSS MEASURE OF THE INABILITY OF OUR FLEET TO MEET THE CHANGING ENEMY THREAT. ANY IMPROVEMENT IN THE ENEMY'S STRATEGIC AND TACTICAL CAPABILITY THROUGH THE EMPLOYMENT OF ADVANCED COMBAT SYSTEMS DICTATES A NECESSARY AND TIMELY MODERNIZATION OF OUR SHIPS. SUCH SUBSTANTIVE MODERNIZATION IS ACCOMPLISHED AT THE DEPOT LEVEL.

A STRONG CONTINUED COMMITMENT TO MINIMIZE SHIP MAINTENANCE BACKLOG IS NECESSARY LEST WE SUFFER AGAIN AN UNSATISFACTORY FLEET MATERIAL CONDITION AS WE WITNESSED IN FY 1976 WHEN THE MAINTENANCE BACKLOG NUMBERED 68 SHIPS. THROUGH ENHANCED FUNDING, INNOVATIVE

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MANAGEMENT INITIATIVES, AND I SHOULD ADD STRONG CONGRESSIONAL PRESSURE, WE HAVE SLOWLY DECREASED THE BACKLOG TO 30 IN FY 78, TO 26 IN FY 79, AND AGAIN TO 16 AND 11 IN FISCAL YEARS 81 AND 83 RESPECTIVELY. THE CURRENT BACKLOG IS NOT CAUSED BY A LACK OF FUNDING BUT RATHER IS THE RESULT OF OPERATIONAL CONSTRAINTS.

A SMALL NUMBER OF SHIPS IN THE OVERHAUL BACKLOG DUE TO OPERATIONAL CONSTRAINTS IS MANAGEABLE AND IS NOT CONSIDERED TO BE A MAINTENANCE PROBLEM. HOWEVER, I WOULD VIEW WITH CONCERN ANY LESSENING OF OUR STRONG RESOLVE OF THE LAST 6 YEARS TO FUND ALL OVERHAULS FOR SHIPS WHICH ARE DUE FOR OVERHAUL AND CAN BE MADE AVAILABLE FOR SCHEDULED, REQUIRED MAINTENANCE AND MODERNIZATION. IF WE WERE TO BACK AWAY FROM THAT COMMITMENT AS SOME HAVE SUGGESTED, I FEAR THAT WE WOULD SEE A STEADY INCREASE IN THE OVERHAUL BACKLOG WHICH WOULD INDICATE A DEGRADATION OF SHIP MATERIAL READINESS.

IN SUMMARY, I HAVE ATTEMPTED TO DESCRIBE TO YOU A LARGE AND COMPLEX PROGRAM. ITS SUCCESS IS VITAL TO THE FLEET'S READINESS. ADEQUATE READINESS, IN TURN, CAN INSURE SUCCESSFUL ACCOMPLISHMENT OF OUR MISSION. THE CONGRESS HAS BEEN INSTRUMENTAL IN THE STRIDES MADE DURING THE PAST FEW YEARS TO IMPROVE SHIP MAINTENANCE AND MODERNIZATION. WE NEED THE CONTINUED SUPPORT OF CONGRESS' PARTICULARLY WITH RESPECT TO:

A. SHIP MAINTENANCE AND MODERNIZATION FUNDING

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B. AUTHORIZATION FOR SUFFICIENT EMPLOYEES IN THE NAVAL SHIPYARDS AND THE STAFFS OF THE SUPERVISORS OF SHIPBUILDING

C. NAVAL SHIPYARD MODERNIZATION

MR. CHAIRMAN, THIS CONCLUDES MY PREPARED STATEMENT. I WILL RESPOND TO YOUR QUESTIONS AT THIS TIME.

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SHIP MAINTENANCE
AND
MODERNIZATION PROGRAM

UNITED STATES NAVY
CHIEF OF NAVAL OPERATIONS

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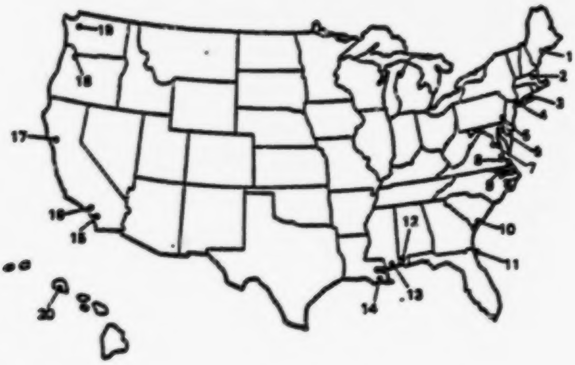
SHIP REPAIR INDUSTRY IN THE UNITED STATES



1. *BATH IRON WORKS

2. *BETHLEHEM STEEL - BOSTON
   *MUNRO DRYDOCK
   *GENERAL SHIP AND ENGINE WORKS - BOSTON
   *NEWPORT SHIPBUILDING - NEWPORT, RI
   *SOUTH PORTLAND

3. GENERAL DYNAMICS - ELECTRIC BOAT

4. *BETHLEHEM STEEL - HOBOKEN
   *COASTAL DRYDOCK
   TODD - BROOKLYN
   *JACKSON ENGINEERING
   *PERTH-AMBOY DRYDOCKS

5. *PENN SHIP (formerly SUN SHIPBUILDING AND DRY DOCKS)

6. BETHLEHEM STEEL - SPARROWS POINT

7. *MARYLAND SHIPBUILDING AND DRY DOCKS
   *BETHLEHEM STEEL - KEY HIGHWAY

⑦

8. *NEWPORT NEWS SHIPBUILDING AND DRY DOCKS
   *HORNE BROTHERS

*CONDUCTED AN OVERHAUL IN THE PAST TWO YEARS.

9. *NORFOLK SHIPBUILDING AND DRY DOCKS
   *METRO MACHINE
   JONATHAN CORPORATION

10. *DETYENS MARINE
   SANDBLASTERS, INC.
   BRASWELL MT. PLEASANT
   *METAL TRADES

11. JACKSONVILLE SHIP
   *ATLANTIC DRY DOCKS
   TAMPA SHIPBUILDING AND DRY DOCKS
   *BELLINGER SHIP

12. *ALABAMA SHIPBUILDING AND DRY DOCKS

13. *INGALLS/LITTON

14. *AVONDALE SHIPYARDS
   BOLAND MARINE

15. *NASSCO
   *TRIPLE A - SOUTH
   AR' TLL CORP.
   ATKINSON MARINE
   *SOUTHWEST MARINE

16. *TODD - LOS ANGELES
   *AL LARSON
   WILMINGTON MARINE

17. *BETHLEHEM STEEL - SAN FRANCISCO
   *TRIPLE A
   SAN FRANCISCO WELDING
   SOUTHWEST MARINE
   *SERVICE ENGINEERING
   *TODD - ALAMEDA
   *MERRITT

18. *NORTHWEST MARINE
   DILLINGHAM

19. *LOCKHEED SHIPBUILDING
   *TODD - SEATTLE
   *LAKE UNION DRY DOCKS
   TACOMA BOAT
   MARINE POWER & EQUIPMENT
   *SEATAC

20. *DILLINGHAM
   *PACIFIC MARINE

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NAVY SHIP MAINTENANCE AND MODERNIZATION PROGRAM

OBJECTIVES

- MAINTAIN ADEQUATE MATERIAL CONDITION OF FLEET IN ORDER PROVIDE MAXIMUM AVAILABILITY OF FORCES.

- ENHANCE FLEET CAPABILITIES TO COUNTER CHANGING ENEMY THREATS.

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SHIP MAINTENANCE AND MODERNIZATION POLICY

- MAINTAIN SHIPS TO FULL CAPABILITY AND IN GOOD MATERIAL CONDITION.
- ACCOMPLISH SHIP WORK AT LOWEST EFFECTIVE LEVEL.

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SHIP MAINTENANCE EQUATION

SHIP MAINTENANCE	= ORGANIZATIONAL LEVEL	+ INTERMEDIATE LEVEL	+ DEPOT LEVEL
	SHIP	● TENDERS ● SHORE BASED IMAS	SHIPYARDS
	SAILORS	SAILORS	CIVILIANS

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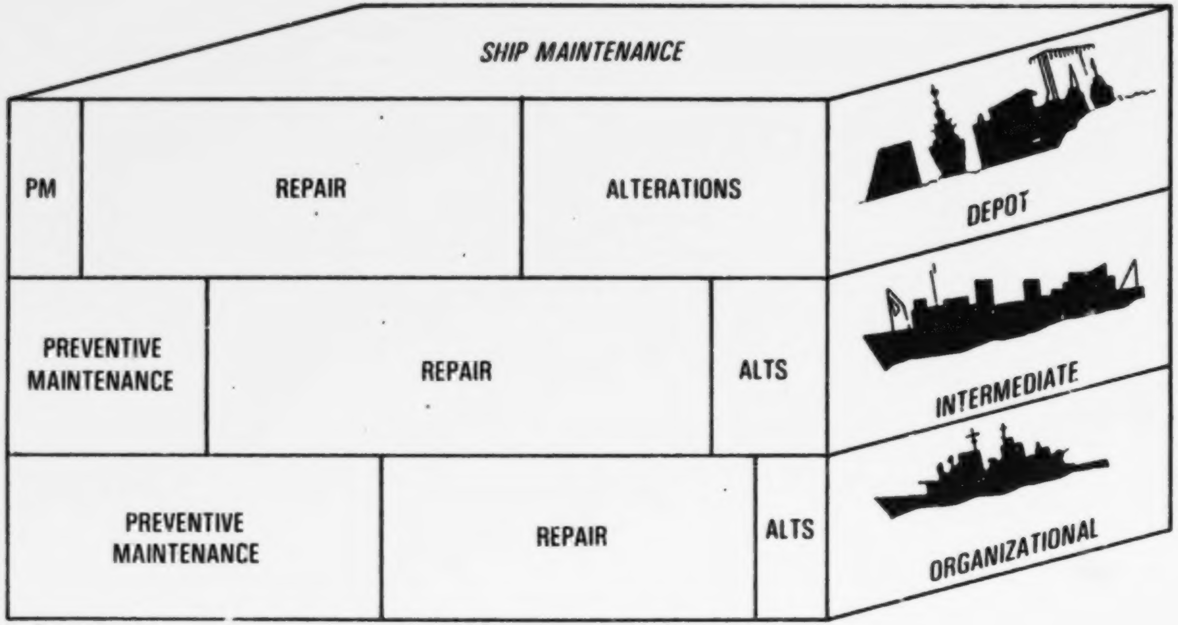
SHIP MAINTENANCE
PM
REPAIR
ALTERATIONS
DEPOT
PREVENTIVE MAINTENANCE
REPAIR
ALTS
INTERMEDIATE
PREVENTIVE MAINTENANCE
REPAIR
ALTS
ORGANIZATIONAL

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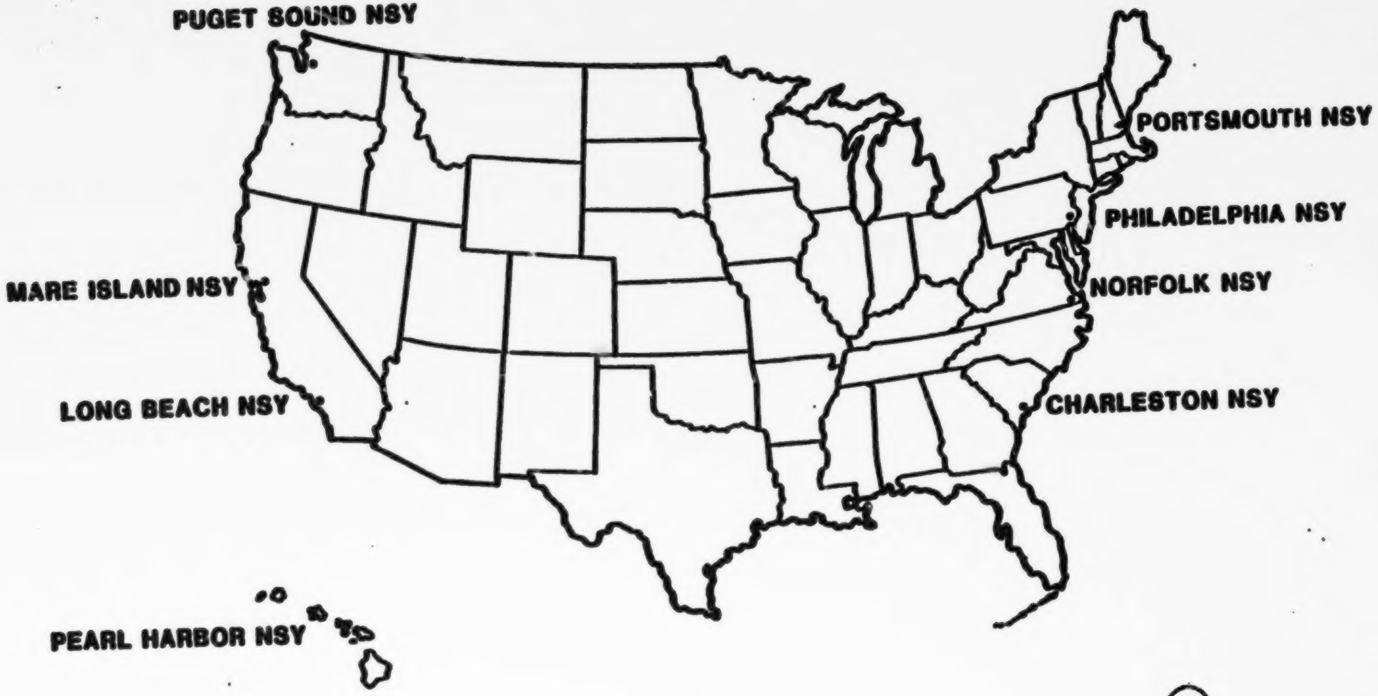
PUBLIC SHIPYARDS


PUGET SOUND NSY
PORTSMOUTH NSY
PHILADELPHIA NSY
MARE ISLAND NSY
NORFOLK NSY
LONG BEACH NSY
CHARLESTON NSY
PEARL HARBOR NSY

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DEPOT LEVEL MAINTENANCE

PLANNED MAINTENANCE

- REGULAR OVERHAULS (ROH'S)
- SELECTED RESTRICTED AVAILABILITIES (SRA'S)

UNPLANNED MAINTENANCE

- RESTRICTED AVAILABILITIES (RAV'S)
- TECHNICAL AVAILABILITIES (TAV'S)

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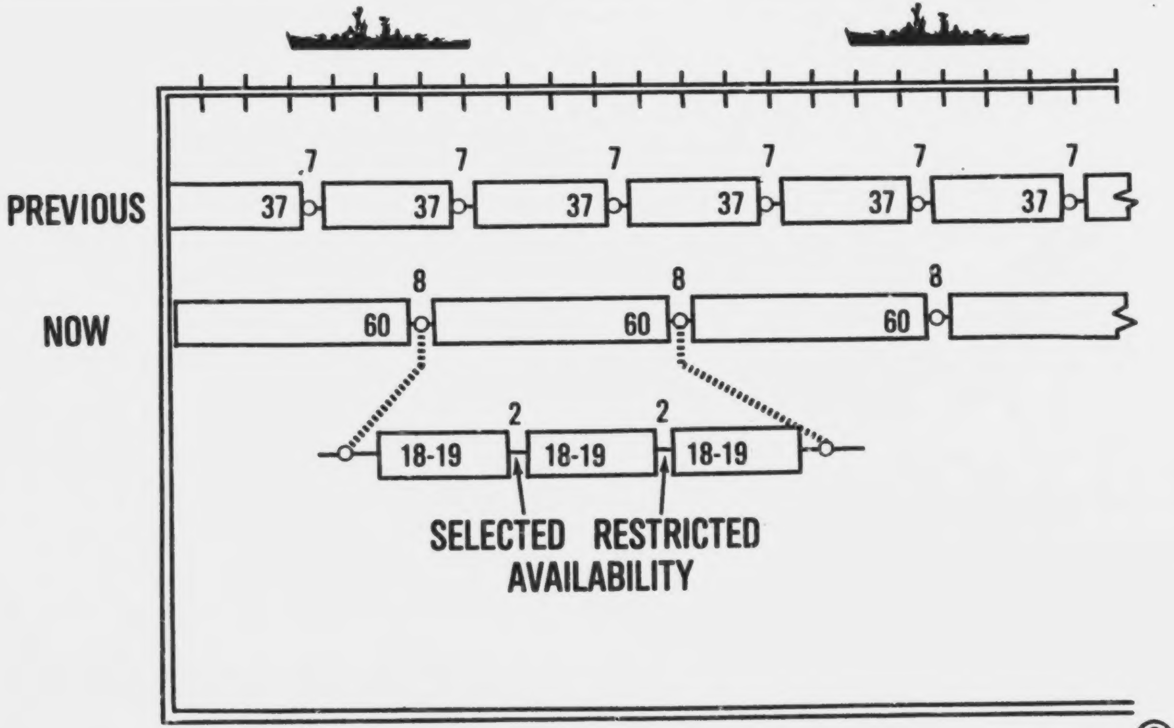
DESTROYER ENGINEERED OPERATING CYCLE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NOW
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2
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18-19
18-19
18-19
SELECTED RESTRICTED
AVAILABILITY

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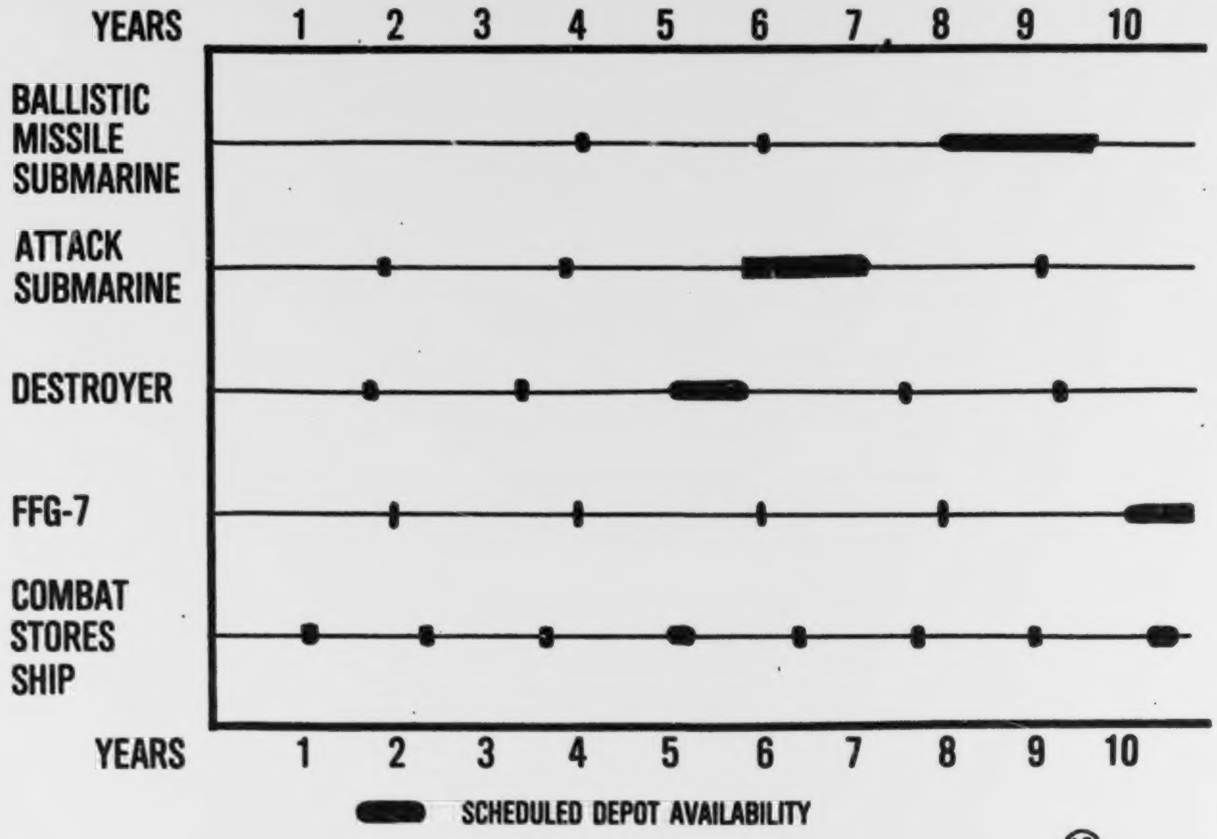
SAMPLE
ENGINEERED OPERATING CYCLES



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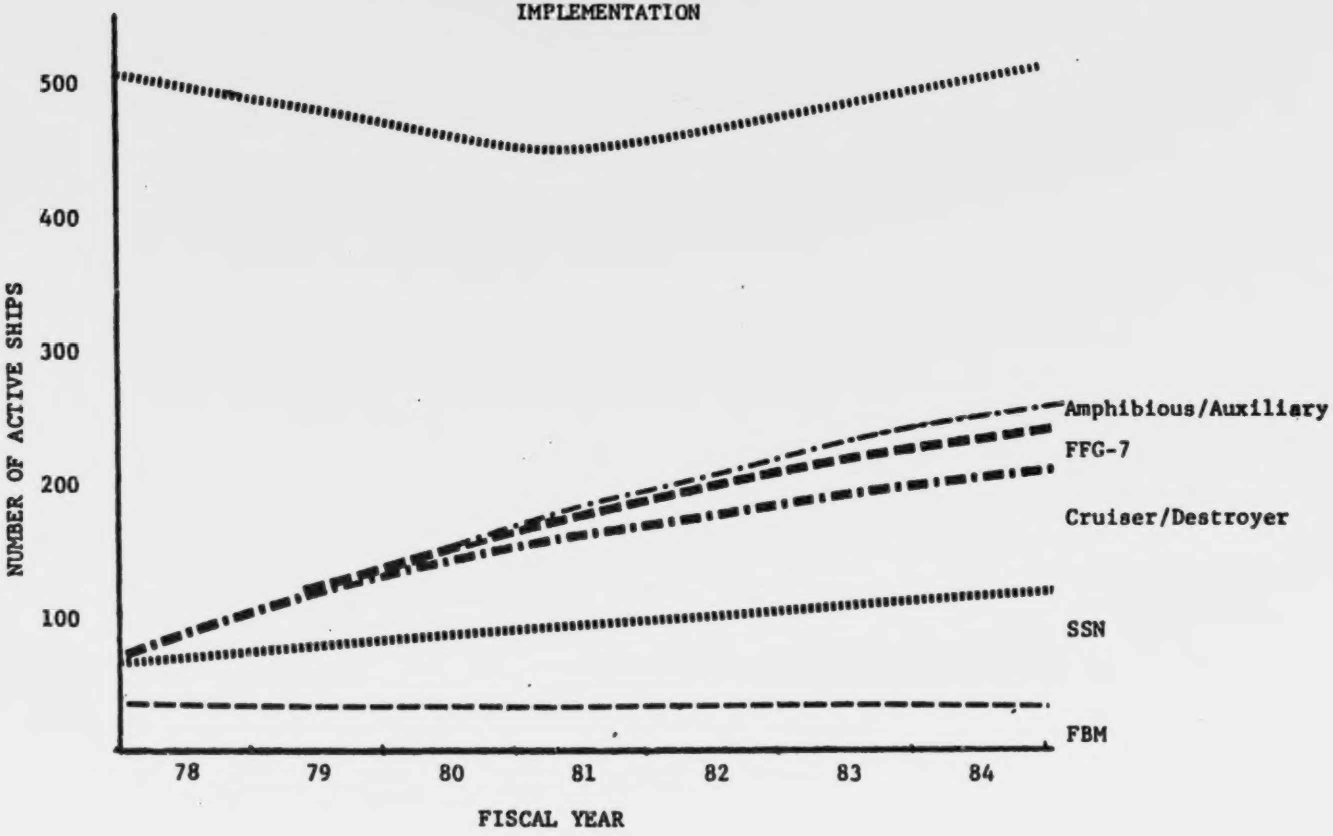
ENGINEERED OPERATING CYCLE
IMPLEMENTATION



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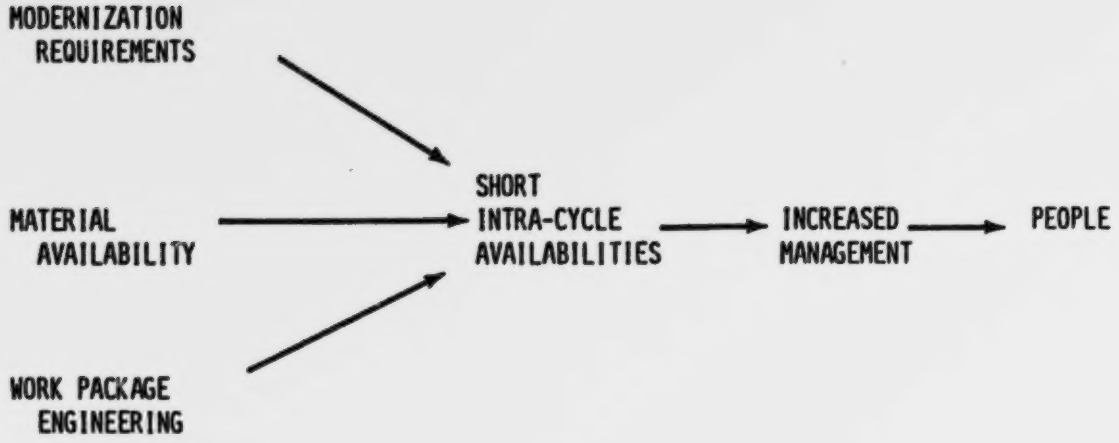
ENGINEERED OPERATING CYCLE PROBLEM AREAS



MODERNIZATION REQUIREMENTS

MATERIAL AVAILABILITY

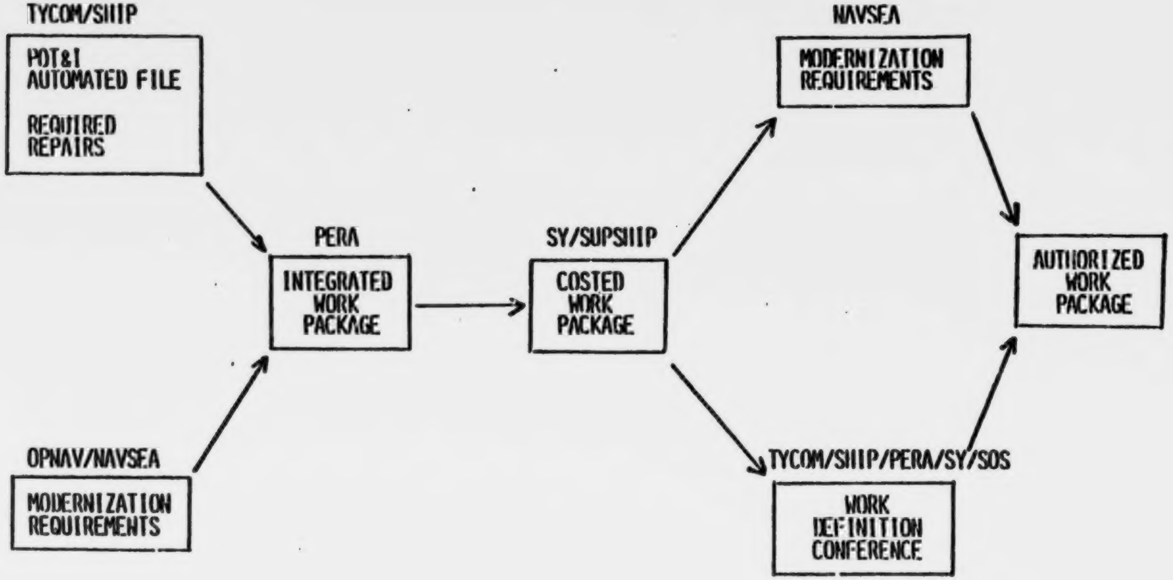
WORK PACKAGE ENGINEERING

SHORT INTRA-CYCLE AVAILABILITIES

INCREASED MANAGEMENT

PEOPLE

OVERHAUL WORK PACKAGE DEFINITION/AUTHORIZATION


TYCOM/SHIP
POT&I AUTOMATED FILE
REQUIRED REPAIRS
OPNAV/NAVSEA
MODERNIZATION REQUIREMENTS
PERA
INTEGRATED WORK PACKAGE
SY/SUPSHIP
COSTED WORK PACKAGE
NAVSEA
MODERNIZATION REQUIREMENTS
TYCOM/SHIP/PERA/SY/SOS
WORK DEFINITION CONFERENCE
AUTHORIZED WORK PACKAGE

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FY 1983 CONGRESSIONAL BUDGET
CONTROL TOTALS
(DOLLARS IN MILLIONS)

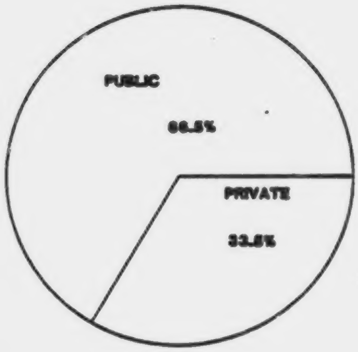
	FY 1980	FY 1981	FY 1982	FY 1983
SCHEDULED OVERHAULS	$ 1,656.4	$ 1,922.0	$ 2,166.0	$ 2,756.0
NUMBER OF OVERHAULS	58	67	63	66
RESTRICTED AVAILABILITIES	560.4	754.7	787.2	896.3
NUMBER OF SELECTED RESTRICTED AVAILABILILTIES	44	70	57	77
SHIP ALTERATIONS	763.0	952.7	953.0	957.5
INTERMEDIATE MAINTENANCE	168.8	212.0	260.2	293.0
TECHNICAL SUPPORT	95.8	105.9	102.0	127.7
ORGANIZATIONAL MAINTENANCE	188.4	387.3	488.8	609.3
FLEET OUTFITTING	-	-	170.2	211.5
TOTAL	$ 3,432.8	$ 4,334.6	$ 4,927.4	$ 5,851.3

⑭ REVISED

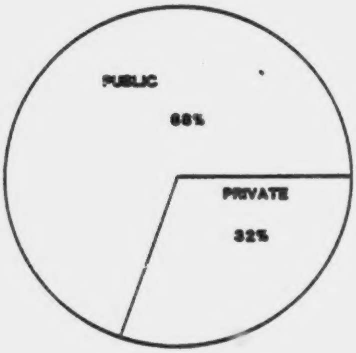
SHIP ROH SCHEDULING

- YEARLY ROH / SRA SCHEDULING CONFERENCE
- PARTICIPANTS - CNO, NAVSEA, FLEET/TYPE COMMANDERS, INDUSTRIAL ACTIVITIES
- DURATION / INTERVAL PLANNING FACTORS
- DETERMINATION DIRECT LABOR MAN-DAY AND DOLLAR REQUIREMENTS
- SCHEDULE TAILORED TO OPERTIONS SCHEDULE
- FIRST CONSIDERATION - DEVELOP EXECUTABLE PROGRAM
- BALANCE SHIPYARD WORKLOAD

Repairs and Ship Alterations Distribution Between Public and Private Shipyards



FY 1980



FY 1981

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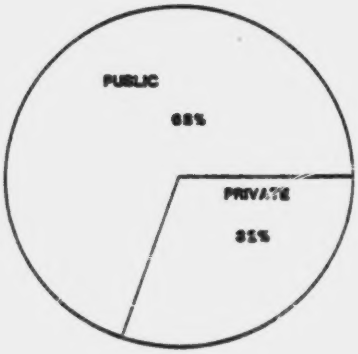
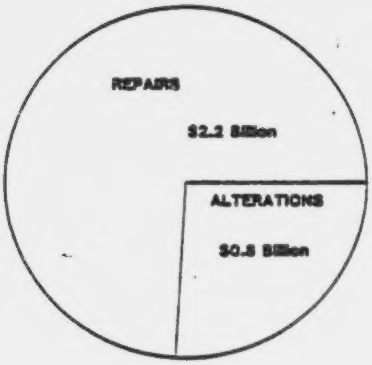


FY 1982 (Estimated)

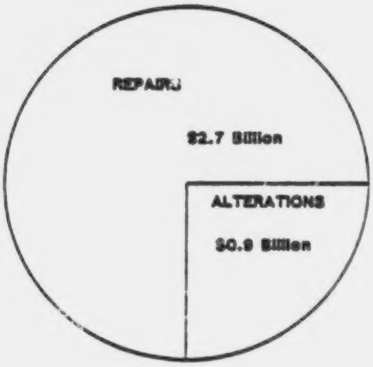
NOTE: All figures are percentages of total current dollar value of repairs and alterations.

Repairs and Ship Alterations Accomplished During Ship Overhauls and Restricted Availabilities



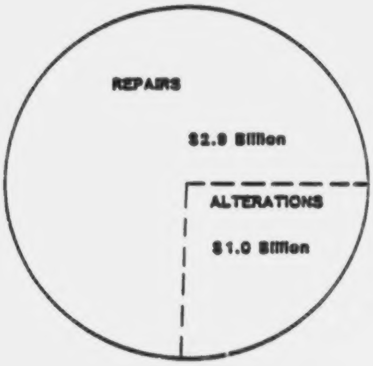
FY 1980

Total: $3.0 Billion



FY 1981

Total: $3.6 Billion



FY 1982 (Estimated)

Total: $3.9 Billion

NOT FOR PUBLICATION UNTIL RELEASED
BY THE HOUSE APPROPRIATIONS COMMITTEE

STATEMENT OF

REAR ADMIRAL RICHARD A. MARTINI, U.S. NAVY

DIRECTOR, AVIATION PROGRAMS DIVISION

FOR

THE NAVAL AVIATION DEPOT MAINTENANCE PROGRAM

BEFORE THE

DEFENSE SUBCOMMITTEE

OF THE

HOUSE APPROPRIATIONS COMMITTEE

ON

10 JUNE 1982

REAR ADMIRAL RICHARD A. MARTINI, UNITED STATES NAVY

Rear Admiral Martini was born in Norway, Michigan, on January 15, 1932. He was a member of the Naval Reserve Officers Training Corps at the University of Utah, and received his commission upon graduation in 1954. He then entered the Naval Flight Training Program at Pensacola, Florida, and was designated a Naval Aviator at Naval Air Station Hutchinson, Kansas, in January 1956.

Rear Admiral Martini's first duty as an aviator was as a flight instructor in T-28 aircraft at the Naval Air Training Command, Corry and Whiting Fields, Fla. In 1958, he was assigned to Patrol Squadron Six at Naval Air Station Barbers Point, Hawaii, where he qualified as a Patrol Plane Commander in the SP-2E aircraft and participated in deployed operations in Japan and the various Pacific Islands. He was subsequently assigned to the staff of Commander Fleet Air Wing Two at Barbers Point where he served as Assistant ASW Officer.

In January 1963, Rear Admiral Martini served as Project Officer for P-3A and SP-2H aircraft, Air Development Squadron One. In 1965, he attended the Armed Forces Staff College. Reporting to Patrol Squadron Ten, Naval Air Station Brunswick in 1966, his duties included Safety Officer, Operations Officer and Officer-in-Charge of an Argentia, Newfoundland detachment. He qualified as Patrol Plane Commander in the P-3B aircraft and participated in deployments to Iceland, the Azores, Newfoundland, Spain and Bermuda.

Reporting to Patrol Squadron 24 in October 1968, Rear Admiral Martini assumed duties as Executive Officer. In December 1969, he became VP-24's 29th Commanding Officer, qualifying as Patrol Plane Commander in P-3B and P-3C aircraft and was involved in a deployment to Iceland and the Azores. In January 1957, he returned to Washington, D. C. and served in the Office of Program Appraisal, Office of the Secretary of the Navy, until August 1972.

Rear Admiral Martini reported aboard Patrol Squadron 30 and served as Commanding Officer from October 1972 until October 1973. Upon completion of his tour in VP-30, he served as P-3C Program Coordinator in the Office of the the Chief of Naval Operations until becoming Commander Patrol Wing 11 in March 1975. Following his tour as Wing Commander, he served in the Office of the Chief of Naval Material in Washington, D. C. as Deputy Manager, Anti-Submarine Warfare Systems Project from October 1976 to August 1978.

Rear Admiral Martini became the Commander, Iceland Defense Force on August 18, 1978, and served in that position for three years. During this period he was also Commander Fleet Air Keflavik, Commander Iceland Sector Anti-Submarine Warfare Group and Commander Fleet Air Wing North Atlantic.

Rear Admiral Martini returned to Washington and became Director of the Aviation Programs Division (OP-51), Office of the Chief of Naval Operations in August 1981.

Rear Admiral Martini is authorized to wear the Defense Superior Service Medal, the Legion of Merit, the Meritorious Service Medal, the Navy Unit Commendation, Meritorious Unit Commendation and the National Defense Medal.

Rear Admiral Martini is married to the former Janet Fretwell of Ogden, Utah. They have three children: Kenneth, Steven and Catherine.

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Mr. Chairman and distinguished Members of the Committee:

I am privileged to present to you a brief discussion of the Naval Aviation Depot Maintenance Program.

I will discuss the overall structure of aviation maintenance, describing how depot facilities and activities fit into this framework. I will also address current and projected depot work loads, related manpower requirements, carry-over procedures, modification installations, pricing policies, and facility modernization issues.

The Naval Aviation maintenance structure is divided into three main categories:

The organizational (squadron) level is responsible for aircraft servicing, inspections of installed equipment, functional testing, cleaning, minor corrosion control and replacement of faulty components and associated hardware.

The intermediate level is responsible for calibration, alignment and repair of removed systems and components (e.g., avionics, power plants, etc), metal machine work and other light industrial functions.

The depot level is responsible for repair of faulty components beyond the capability of intermediate level activities, rework and repair of aircraft structures including power plants, installation of aircraft modifications, emergency repair (either within the depot facility or by use of field teams dispatched to fleet activities) and other heavy industrial functions where economies of scale can be realized by centralization of effort. Rework is accomplished by organic Navy facilities, through interservice agreements with Army and Air Force activities and by commercial contractors.

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Depot maintenance efforts are coordinated and directed by the Naval Aviation Logistics Center (NALC) at Patuxent River, Maryland. Policy formulation and budgeting responsibility for depot level maintenance rests with the Naval Air Systems Command, the Chief of Naval Material, and the Chief of Naval Operations.

For the performance of organic depot maintenance, there are six Naval Air Rework Facilities (NARFs), located in four states:

California, with approximately 4,500 civilian employees at NARF Alameda and over 5,700 civilian employees at NARF North Island;

North Carolina, with approximately 2,700 civilian employees at NARF Cherry Point;

Virginia, with over 4,500 civilian employees at NARF Norfolk; and

Florida, with approximately 3,000 civilian employees at NARF Jacksonville and over 3,400 civilian employees at NARF Pensacola.

The NARFs possess the capability to inspect, repair and rework a wide range of aircraft, engines and associated components. Proper scheduling of NARF work load is a critical factor in operating a responsive and cost-effective depot maintenance program. NARF induction schedules are designed to ensure that work load is distributed among the facilities for maximum economy of operations within existing capabilities. Inductions are frequently adjusted to accommodate changes in fleet operating schedules. The result is a dynamic and iterative work load scheduling process designed to balance industrial capabilities with operational requirements.

NARF support for the fleet, however, is much broader than just repair and rework. The NARFs also act as designers and fabricators of systems,

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components and interface units to fill urgent fleet requirements which cannot be satisfied by commercial vendors in an expeditious manner. They provide engineering support for systems no longer supported by contractors, and perform on-site aircraft inspections, support equipment (SE) repair and calibrations and field modifications in cases of operational necessity, expedience or economic advantage. Thus, the NARFs are the nucleus of the Navy's aviation technical and industrial base. When supplemented by interservice support as well as a vast network of commercial contractors, they provide the capability to fulfill the Navy's requirements for aircraft rework and related aviation depot level maintenance support.

The Aircraft Rework Program is divided into five major categories: airframe rework, engine rework, component repair, modification installation and aircraft support services.

For all categories, requirements are translated into the resources necessary to accomplish the work, priced in accordance with direction from higher authority and constrained to conform with funding limitations. Requirements which cannot be accommodated due to these limitations are carried over as backlog into the next fiscal year. Depot backlogs, therefore, include maintenance that is required and would be accomplished if sufficient funding were available. Fleet priorities as well as relevant program and fiscal guidance are used to place emphasis on specific areas. This emphasis can be broad (e.g., fully funding the components repair program) or narrow (e.g., setting up special teams to solve a particular problem). We also determine where the work should be done (i.e. in our own Navy facilities, by another service through an interservice agreement, or by

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a commercial contractor). This determination takes into consideration the criticality of the item involved as well as the availability of required equipment and skills.

Insufficient rework funding creates depot maintenance backlogs and results in degradation of fleet readiness. For airframes, it affects the number of aircraft on extension. An aircraft is on extension if it is not inducted for rework at the end of its normal operating period. Zero backlog for airframe rework equates to 6% aircraft on extension. For engines, the impact is measured in the number of bare firewalls. A bare firewall is an empty aircraft engine compartment due to a shortage of ready-for issue engines. Zero backlog for engine rework equates to 36 bare firewalls. Component rework deficiencies result in lack of replacements for failed components which can ground an aircraft or degrade its mission performance. Zero backlog for component rework equates to 85% supply material availability. For aircraft support services and modification installations, the impact is reflected in modification kits not installed and system capability not attained. Zero backlog for these programs equates to full support of validated requirements.

Airframe rework is the general term that describes depot level maintenance of Fleet aircraft, including both the aircraft structure and selected airframe systems. Airframe rework encompasses the following: Standard Depot Level Maintenance (SDLM), emergency repair, modifications, field inspection, conversions, mid-term inspections and crash damage. The program is structured to maintain a safely flyable airframe at minimum cost over the useful life of the aircraft by periodic return to a depot level

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maintenance activity. In establishing the interval between depot level maintenance visits, a balance is maintained so that the airframe will not deteriorate beyond the point of economic rework and yet will not be inducted into rework prematurely. In this regard, the Navy has developed and implemented the Analytical Maintenance Program (AMP) in order to accomplish only those scheduled maintenance actions which can be technically justified and are cost-effective. A summary of airframe rework program funding follows:

AIRFRAME REWORK

	REQUIREMENT	CONSTRAINT	CARRY-OVER	PERCENT FUNDED
FY 1981 (actual)	$ 319.5M	$ 318.2M	$ 1.3M	99.6%
FY 1982 (estimate)	$ 379.4M	$ 355.9M	$ 23.5M	93.8%
FY 1983 (estimate)	$ 347.4M	$ 347.4M	0	100.0%

Engine rework includes the repair, modification and overhaul of aircraft engines, gearboxes and torquemeters installed in naval aircraft. The program is structured to maintain sufficient ready-for-issue engines, gearboxes and torquemeters to support the Navy flying hour program. Projections of the number of engines requiring repair are based upon planned aircraft engine operating hours and statistically projected engine failure rates. A summary of engine rework program funding follows:

ENGINE REWORK

	REQUIREMENT	CONSTRAINT	CARRY-OVER	PERCENT FUNDED
FY 1981 (actual)	$ 194.0M	$ 180.8M	$ 13.2M	93.2%
FY 1982 (estimate)	$ 216.3M	$ 195.0M	$ 21.3M	90.2%
FY 1983 (estimate)	$ 190.6M	$ 190.6M	0	100.0%

Component rework accomplishes the repair, modification and overhaul of aeronautical components at the depot level that are beyond the capability of intermediate level maintenance activities. These items include avionic, navigation, instrument, hydraulic, mechanical, airframe and engine components as well as aircraft armament systems and support equipment. Engine component rework includes those repairables required for support of the Engine Analytical Maintenance Program (EAMP). Also included in this category is contractor repair of components for newly acquired aircraft systems and equipment before they are supported with organic assets. Component rework requirements are based upon projected flying hours, historical usage rates, mobilization requirements, safety levels and projected additions and deletions of items from the supply system. Data generated by these sources are integrated and summarized as component requirements through use of a formula approved by the Office of the Secretary of Defense.

A summary of component rework program funding follows:

COMPONENT REWORK

	REQUIREMENT	CONSTRAINT	CARRY-OVER	PERCENT FUNDED
FY 1981 (actual)	$ 734.5M	$ 709.8M	$ 24.7M	96.6%
FY 1982 (estimate)	$ 705.2M	$ 690.8M	$ 14.4M	98.0%
FY 1983 (estimate)	$ 842.0M	$ 842.0M	0	100.0%

Modification installations improve the combat effectiveness of naval aircraft systems through incorporation of operational and safety oriented modifications in existing naval aircraft. In addition, special modifications are frequently installed to strengthen structures or to extend the useful service life of structures beyond existing engineering specifications.

Requirements for the aircraft modification installation program are generated by the Operational Safety Improvement Program (OSIP). The Aircraft Procurement, Navy (APN) appropriation procures modifications kits which effect necessary operational and safety improvements to the aircraft systems. The cost of labor and material needed for the installation of these kits is funded in the Operations and Maintenance, Navy (O&MN) appropriation. Individual aircraft modification installation funding requirements are based upon modification kit inventories and procurement schedules. A funding balance between kit procurement and kit installation funding is essential for orderly execution of this program. A summary of modification installation program funding follows:

MODIFICATION INSTALLATIONS

	REQUIREMENT	CONSTRAINT	CARRY-OVER	PERCENT FUNDED
FY 1981 (actual)	$ 147.7M	$ 139.5M	$ 8.2M	94.5%
FY 1982 (estimate)	$ 236.4M	$ 182.3M	$ 54.1M	77.1%
FY 1983 (estimate)	$ 317.2M	$ 214.4M	$102.8M	67.6%

Aircraft support services involve support rendered by depot level maintenance activities to the fleet. The objective is to provide immediate assistance for the correction of support problems uncovered during fleet operations. Subprograms under aircraft support services include aircraft preservation, customer services, salvage and a limited amount of fleet training. Requirements are based upon historical demand data adjusted for flying hours, complexity of aircraft and projected fleet operational commitments. A summary of aircraft support services program funding follows:

AIRCRAFT SUPPORT SERVICES

	REQUIREMENT	CONSTRAINT	CARRY-OVER	PERCENT FUNDED
FY 1981 (actual)	$ 50.9M	$ 50.3M	$ 0.6M	98.7%
FY 1982 (estimate)	$ 61.6M	$ 55.7M	$ 5.9M	90.4%
FY 1983 (estimate)	$ 55.3M	$ 55.3M	0	100.0%

Aircraft rework requirements are dynamic and frequently change between development and execution of the budget. These changes occur as a result of adjustments to force levels and flying hours as well as emergent problems with aircraft, engines or associated equipment.

The aviation depot maintenance budget data for FY-83 reflects full funding of Navy airframe, engine, and component rework requirements which were validated during the DOD budget review process. Although installation of modifications is not displayed as depot maintenance, most modifications are installed concurrent with aircraft rework. Consequently, the budgeted backlog in modification installations will necessitate rebalancing depot maintenance funds during execution. In addition, the Navy's experience to date with execution of the FY-82 depot maintenance program indicates that actual rework requirements are significantly higher than those projected in the budget due to the increased emphasis being placed on aviation readiness. To the extent this trend continues, FY-83 rework funding deficits and associated depot maintenance backlogs will occur.

In closing, I would like to discuss two important efforts which are directed toward improving our capability to meet mobilization surge requirements and future technology advances. The first of these is the Aviation Depot Maintenance Mobilization/Combat Support Baseline Plan. This is an intensive effort undertaken by the Navy to define the minimum level of organic industrial capacity and manpower required to support mobilization/wartime contingency operations, maintain technical competence and satisfy the peacetime needs of naval aviation. Currently in the final stage of development, the Baseline Plan is expected to resolve a multitude of issues concerning requirements for NARF capability, capacity and manpower.

An important related endeavor is the NARF Modernization Study. This study will utilize Baseline Plan results to assess current NARF capabilities and develop a comprehensive NARF Modernization Plan tailored to identified requirements for organic industrial capabilities. Together, the Baseline and NARF Modernization Plans will provide the blueprint for ensuring that we can adequately support the present and future needs of naval aviation for depot maintenance in both war and peace.

I thank you for your support of this vital program.

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE COMMITTEE ON APPROPRIATIONS
DEFENSE SUBCOMMITTEE

HOUSE OF REPRESENTATIVES

DEPOT MAINTENANCE

STATEMENT OF: BRIGADIER GENERAL WILLIAM P. BOWDEN
Deputy Director, Logistics Plans and Programs
Headquarters, USAF

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BIOGRAPHICAL SKETCH

OF

BRIGADIER GENERAL WILLIAM P. BOWDEN

Brigadier General William P. Bowden is Deputy Director, Logistics Plans and Programs, Office of the Deputy Chief of Staff for Logistics and Engineering, Headquarters U.S. Air Force, Washington D.C.

General Bowden was born Nov 4, 1932, in Swifton, Ark., where he graduated from high school in 1950. He graduated from the University of Arkansas in 1954 with a bachelor of science degree. He has a master's degree in business administration from the George Washington University and a second in political science from Auburn (Ala.) University. His professional military education includes Air Command and Staff College and the Air War College, both schools are located at Maxwell Air Force Base, Ala.

He received his commission through the Reserve Officers' Training Corps program at the University of Arkansas and entered active duty in September 1954. He reported to Harlingen Air Force Base, Texas, for navigator training in October 1954, completed the course in October 1955, and immediately moved to Mather Air Force Base, Calif., for navigator bombardier training. Upon graduation in March 1956, he was assigned to the 6th Bombardment Wing, Walker Air Force Base, N.M., as a B-36 bombardier until 1958. The wing then converted to B-52s and he remained there through July 1959.

His next assignment was at Eglin Air Force Base, Fla., with the 4135th Strategic Wing as a standardization instructor navigator-bombardier. At that time the wing was involved in B-52 testing of the AGM-28 air to surface missile and the ADM-20 decoy missile. In 1962 General Bowden transferred to the Strategic Air Command Project Office at the Air Proving Ground Center, Eglin Air Force Base to work air to surface missile testing, B-52 avionics development and conventional munitions test programs.

From July 1964 to June 1965, he attended the Air Command and Staff College and concurrently obtained a master of science degree in business administration from the George Washington University cooperative education program on Maxwell Air Force Base.

Following Air Command and Staff College he was assigned to Headquarters Strategic Air Command, Offutt Air Force Base, Neb., in avionics requirements. His programs included B-52 offensive avionics, KC-135 system modifications and RC-135 reconnaissance modifications.

In September 1969 he joined the B-52 Arc Light program at U-Tapao Royal Thai Naval Airfield, Thailand, as an operations officer. He flew 44 combat missions.

General Bowden reported to Air Force Headquarters in September 1970, Office of the Deputy Chief of Staff for Plans and Operations, Directorate for Force Development. He was a manager for fighter war readiness materiel support logistics planning for conventional munitions. The programs he was involved with included the Maverick and laser guided bombs.

He completed the Air War College, class of 1972-73, as a distinguished graduate. He also obtained a master's degree in political science from Auburn University's Maxwell Air Force Base Campus. That led to a tour of duty as a faculty instructor and chief of the Curriculum Planning Division at the Air War College. He participated in implementing the change of the Air War College program of study from national-international affairs to one more oriented to air power applications.

From March 1976 to August 1978, the general was the KC-135 system manager at Oklahoma City Air Logistics Center, Tinker Air Force Base, Okla., and later became the combined system manager for B-52s, A-7s and KC-135s. He was then assigned as Director of Material Management. In this assignment General Bowden managed a number of engine improvement programs and several aircraft life extensions and modernization programs. One of these programs was the initiation of the air-launched cruise missile modification.

General Bowden was assigned as Assistant Deputy Chief of Staff, Logistics Operations, Headquarters Air Force Logistics Command, Wright-Patterson Air Force Base, Ohio, in April 1980 and assumed his present duties in April 1981.

The general is a master navigator and has 4,500 flying hours. His military decorations and awards include the Legion of Merit, Meritorious Service Medal, Air Medal with one oak leaf cluster and Air Force Commendation Medal. In September 1980 he was awarded the Air Force Association's Thomas P. Gerrity Award for Logistics Management.

He was promoted to brigadier general Jan. 23, 1981, with date of rank Jan. 18, 1981.

General Bowden is married to the former Isobel Anderson of Nashville, Tenn. They have two children: Andy and Marjorie. His hometown is Swifton, Ark.

Mr. Chairman and Members of the Committee:

I am pleased to have the opportunity to appear before this Committee and present an overview of the Air Force Depot Maintenance Program, an activity which is critical to the readiness of our forces.

Today I will discuss trends in our depot maintenance programs, how and where we accomplish the work, some management initiatives, and funding. I will provide some specifics on the core of our program and discuss some problems concerning our civilian employee depot work force.

The Air Force depot maintenance program serves many customers and is funded in several appropriations. The program supports the installation of modification kits and maintenance of weapon systems, engines, other major equipment and exchangeable components beyond the capability of field level maintenance organizations. Our Air Force Logistics Command (AFLC) is responsible for management and accomplishment of depot maintenance workloads. Work is accomplished in industrial plants, either by AFLC in its own facilities (organic); by private industry (contract); by other military services (interservice); or by specialized organic and contractor teams deployed to operational sites. Based on dollars, the total FY 1983 Air Force depot maintenance program to be accomplished is distributed as follows: 51 percent in our organic depots, 47 percent by contract sources and 2 percent by the other military services. Our high percentage of contract supported work is related to Air Force compliance with the general policy of the government and Department of Defense to rely on competitive private enterprise to accomplish depot maintenance work when no overriding factors require in-house performance. The Air Force uses a decision logic process that identifies the optimum organic/contract mix needed to support our peacetime readiness needs and yet be fully capable of expanding to meet wartime surge workload requirements.

Turning to our industrial activities, I would like to review several historical management initiatives that have led to more economical operations. In the last twenty years the Air Force has significantly restructured and modernized its wholesale logistics base. This restructuring process included closing all seven overseas depots, numerous CONUS specialized depots, and four major Air Materiel Areas, or Centers. These closures, which were completed by the late sixties, compressed the logistics base to its current physical plant - five major Air Logistics Centers plus the specialized Aerospace Guidance and Metrology Center at Newark Air Force Station, Ohio. Further, with the modernization of the remaining depots to increase efficiency the Air Force was able to reduce its depot maintenance civilian manpower or end strength. With Congressional support more than $300 million has been invested in new facilities and equipment since 1971. This investment allowed us to retire old and obsolete facilities, thus avoiding high maintenance costs. For the period FY 1973 through FY 1981, our depot maintenance civilian work force was reduced by 3,142 spaces, without loss of production capability. This manpower reduction relates to the inherent efficiencies resulting from facility and equipment modernization.

Another initiative completed in FY 1976 resulted in a 1,100 maintenance work force space reduction, primarily in management and support areas. This initiative was the realignment of repair center workloads to consolidate similar items into a single repair facility.

To continue, the Air Force readdressed its depot maintenance activities again in 1977 to determine what additional improvements could be made. Several actions were initiated to further enhance previous productivity initiatives. These actions included the tightening of labor standards, improved production planning and improved material flow to the repair lines. Using FY 1977 as the base year for comparison these initiatives resulted in a projected productivity gain of more than 13 percent by end FY 1982. On top of this an additional 1.5 percent productivity gain is programmed for FY 1983.

Our problem today is that, while blessed with comparatively modern and efficient facilities and equipment, with a replacement value of approximately $3.5 billion, further end strength reductions in recent years have led to underutilization of our plant. A companion problem is our inability to accomplish the assigned peacetime workload with the reduced manning levels. Our choices for accomplishing the peacetime workload are (1) excessive overtime, (2) additional contracting out, or (3) increasing the in-house civilian work force. Our preference is the latter because we can add direct workers without significant additional overhead costs. For example, if we were to add an additional 3,000 personnel to the current on-board strength the fixed overhead costs could be spread over a larger work force, resulting in a reduction of about one dollar from the average man-hour cost used in the industrial fund rate structure. The Air Force has a sustained overtime rate for the entire direct work force that is projected to exceed 7 percent over the fiscal year 1982. In addition, the Air Force Logistics Command has hired more than 3,000 non-permanent employees to meet peacetime workload demands. But perhaps more importantly is the fact that the lower manning level compromises our capability to meet wartime surge workloads. We have postured our organic facilities to provide a workforce to support peacetime workloads which can be put on overtime and be supplemented by rapid hiring of additional skilled workers and reserve augmentation for wartime surge. Since overtime is being used to support peacetime work, some of this surge capability is lost.

We are pleased with the fiscal year 1982 Congressional action to allow civilian end strength increases of 2,000 in FY 1981 and 3,000 in FY 1982 above the previously approved levels. These welcomed increases have allowed us to forego major layoffs from our current work force, have a more adequate in-service work force for wartime, better plant utilization and equipment efficiency, and an enhanced ability to accomplish necessary depot maintenance workloads.

Before addressing our requirements I would like to say a few words about depot economies that are probably not well known outside the depot maintenance community. Rather than discard worn items the Air Force has a dynamic program to develop repair procedures for these items. For instance, multi-layer circuit boards with internal shorts, opens, solder burns or boards requiring laminate repair were coded XB3 (throw-away) or had to be condemned as no repair procedure existed. In recognition of this problem, a research program was initiated and through technical brochures, journals and vendors, equipment was identified and a repair procedure developed. Organic repair capability now exists. Repair of these various items is now a part of our ongoing repair procedure and results in an annual savings of approximately $2.3 million.

Due to aging, with the attendant fatigue and corrosion damage, we now find it necessary to remanufacture many structural items such as engine nacelles and cowling, flaps, elevators and stabilizers. Because of long production lead times, we are turning to our machine shops to manufacture limited quantities of critical items to prevent work stoppages or grounding of aircraft. Without this organic capability, it would be difficult or even impossible to obtain low-volume production of this outmoded technology in the time frames required. We are proud of our capabilities to rapidly produce complex items using our modern, multi-axis, numerically controlled, machine tools.

Also, improved repair processes have been developed to either do repairs cheaper, or to make them last longer. All J-57, J-75 and TF33 turbine blades were repaired using the free-hand method. A contractor repair process for J-57 Inlet Guide Vanes (IGV) was improved upon and adapted to turbine blades. A multi-stage fixture was designed and manufactured to weld all stages of turbine blades, and welding labor standards were reduced substantially with a better quality item being produced. This improved procedure resulted in annual savings of approximately $.6 million. Significant replenishment spares savings have been and are continuing to be documented based on the reclamation of would-be discarded components.

I will now discuss our requirements and some of the factors that affect them. The Air Force employs the Reliability Centered Maintenance (RCM) concept in computing its weapon systems, engines and other major equipment maintenance requirements.

There has been much interest in RCM since MSG-2 was published by the Air Transportation Association in 1970. The Air Force capitalized on these principles long before MSG-2 was written. It is a concept very similar to the one the Air Force implemented in the mid 1960s following the establishment of our Maintenance Management Review program and the Maintenance Requirements Review Board. Beginning in the 1960s the Air Force instituted positive programs to reduce maintenance actions on systems and equipment to minimum essential items at the least cost of ownership. Annual technical reviews were held to assess how equipment and systems were performing, to screen scheduled inspection tasks for validity, frequency and scope, and other functions accomplished by organizational, intermediate or depot maintenance activities. Additional review processes were established with the objective of eliminating cyclic depot maintenance on aircraft where possible,

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to extend the scheduled intervals for those remaining on a depot cycle and to eliminate any work not essential to maintaining safe, reliable and capable aircraft.

The collective results of the critical reviews were the elimination of depot cycles on 50 aircraft series, extension of programmed depot maintenance (PDM) cycles on 40 aircraft series, established programs for Analytical Condition Inspection (ACI) and Controlled Interval Extension, virtual elimination of time change requirements and reduced work packages on aircraft remaining on PDM cycle. For instance, in the depot maintenance area, the B-52H work package is 2,000 manhours less now on a four-year cycle than it was at a three year interval, and the C-130B work package has been cut by more than 5,000 manhours, while the PDM interval has been extended from 24 months to 42 months.

While these actions have reduced costs and aircraft downtime to a significiant degree, we are faced with an offsetting expense due to retention of aircraft far longer than was planned at the time of their design. Thus, it is necessary to extend their service life through structural modification and to incorporate new capabilities to meet the changing threat. Aircraft aging also leads to deterioration of sealants and wiring, and to extensive corrosion which require expensive rework programs. To illustrate this point, 30 percent of Air Force O&M funds for aircraft depot maintenance in FY 1978 were for modification installation, growing to 63 percent in FY 1982 and dropping slightly to 61 percent in FY 1983.

Missiles and other major end items, such as ground equipment, special purpose vehicles, simulators, communications, electronic and meteorological equipment receive depot maintenance only when the condition of the individual item so dictates. Most of the depot repairs in support of these equipments are provided through the overhaul program for exchangeable components.

We have reduced the number of spare engines from that required to support a larger overhaul pipeline by eliminating or extending the maximum operating times between overhaul to the limits permitted by engineering analysis and by performing the largest part of the work on the complete engines at base level. Due to the high costs of engines, we manage them closely, including serial number tracking, daily status visibility to Item Managers on every engine, and performance tracking throughout each engines life. Spectrometric oil analysis is performed regularly to provide condition wear patterns of each engine. Our Engine Condition Monitoring Program tracks the performance of each engine on each flight so that degradations to performance can be corrected before catastrophic failure occurs. Spare engines are kept to a minimum through the intensive management applied to all facets of performance, condition, repair and movement of engines.

Our exchangeable components repair policy is based on repair at base level to the maximum extent practicable and returning only those components which exceed base repair capability to the depot. Thus we avoid the costly pipeline time for major assemblies and end items. More than half of our depot maintenance dollars are used to repair those components of aircraft, missiles, engines and

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other equipment that must be returned to the depot. To reduce costs, we have restricted the number of exchangeable items in our inventory, relying instead on fast movement and rapid repair to meet operational needs. The CONUS Logair transportation network and Military Airlift Command channel runs to overseas areas are essential in reducing the length of the transportation pipeline. Based on the dollar value of our exchangeable inventory, we project a FY 1983 turnover of approximately 2.8, a reflection of the austere stock level provided in our logistics system. This turnover translates into more than $12 billion dollars of annual depots demands, with an average cost of repair of 13 percent of acquisition costs. This large depot repair program represents only about 30 percent of the total annual failures. About 65 percent of the items are repaired at field level and the remaining 5 percent are for initial issue or are condemned because they are not economical to repair. The repair program is our prime source for providing logistics support to our forces. There is no cushion in the wholesale or retail levels to absorb a backlog of unserviceable items to meet readiness requirements. Thus, when the number of unserviceable components exceeds the normal repair cycle quantity, support to our weapon systems is degraded.

Many of the exchangeable components used in our weapon systems are very old, representing an obsolete technology. The mean-times-between-failure are decreasing, resulting in more frequent repairs. Parts availability is non-existent for many items because manufacturers no longer make parts for components over 20 years old. This leads to depot manufacture or reclamation of

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needed parts from condemned components, often with an unwanted delay in repair of the exchangeable components. While we have a limited number of modification actions underway to replace obsolete systems such as UHF radios, TACAN sets, radars, etc., there is still a profusion of these troublesome components that will be with us for several years.

The Air Force recognizes the importance of depot maintenance to the readiness equation. Thus, barring unforeseen problems of a major dimension, the funds requested for FY 1982 and FY 1983 should be adequate to accomplish the work load, with a projected zero backlog.

Now, I would like to turn to the specific request for depot maintenance funds in O&M, Air Force for FY 1983. The request is for $3,386.1 million, including $25.1 million for civilian pay raises which will be requested later under a supplemental request. I show the larger number because the pay raises for FY 1983 are included in the stabilized industrial fund rates that will be used for all of FY 1983.

Within this request is $197.6 million for the pay of civilians and associated costs of operation of the Metrology Center at Newark AFS, Ohio; the contract maintenance and modification of aircraft used in classified programs; and interim contractor support for new systems and subsystems while organic support capability is being developed.

The principal element of cost in the depot maintenance request is $3,188.5 million for Depot Purchased Equipment Maintenance (DPEM) purchases, an increase over FY 1982 of $693.7 million.

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This increase includes $114.7 million for rate increases in the Depot Maintenance Industrial Fund, of which the $25.1 million for FY 1983 pay raises will be requested later. The remaining increase of $579.0 million includes $229 million for program growth and $350 million for a change in the method for financing our contract maintenance program. Included in the $229 million program growth is $58.3 million for the financing of depot plant equipment. A recent DoD policy change requires industrially funded activities to finance capital equipment investments through a depreciation charge to its customers. Previously, such investments were made using the appropriate procurement accounts. The $58.3 million funds the increased customer charge for equipment depreciation costs associated with this policy change.

The breakout of the DPEM request, by repair category, is summarized below.

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(\$M, TY)

Repair Category	FY 81	FY 82	FY 83	Change FY 82-83
Aircraft	547.3	597.2	752.4	+55.2
Missiles	46.1	51.6	60.3	+8.7
Engines	198.7	238.2	280.9	+42.7
Other Major Equipment Items	88.5	103.3	116.1	+12.8
Exchangeables	1228.8	1358.6	1577.2	+218.6
Area/Base Support	58.6	45.9	51.6	+5.7
Pass-through to DMIF (unbudgeted inflation)	52.8			
Contract Policy Change	0	0	350.0	+350.0
Total Request	2220.7	2494.8	3188.5	+693.7
Less FY 1983 Civ Pay Raise			-25.1	-25.1
Net Request	2220.7	2494.8	3163.4	+668.6

NOTE: Numbers may not add due to rounding.

Due to the dynamics of DPEM requirements, the program growth of $229.0 million contained in the FY 1983 increase of $693.7 million can best be addressed through a brief discussion of each repair category:

	FY 82	FY 83	Price	Program
Aircraft	597.2	752.4	+33.6	+21.6

The aircraft program provides funds for programmed maintenance, analytical condition inspections, damage repair and installation of modifications. Modifications increase capability, survivability, maintainability and safety, and extend service life. The $21.6 million program growth is primarily due to the C-5 wing modification (15 aircraft in FY 83 versus 5 aircraft in FY 82), the E-4A to B conversion (2 aircraft in FY 83 versus 1 aircraft in FY 82), increased B-52 OAS/CMI and EF-111 Tactical Jamming System modification installations and increased modification requirements for the F-15 aircraft. Partially offsetting these increases is the decrease in the C-141 stretch modification (0 aircraft in FY 83 versus 62 aircraft in FY 82) and C-135 modifications, including JT3D reengining, decreasing between FY 82 and FY 83. Other major decreases include reduced modification installations on F-4 aircraft.

($M, TY)

	FY 82	FY 83	Price	Program
Missiles	51.6	60.3	+2.8	+5.9

Funds provide for maintenance and modification of in-service missiles. The missile program supports strategic missiles, drones, and various air launched missiles such as the SRAM, Falcon, Standard ARM and Maverick. The program growth of $5.9 million is primarily the result of increased Minuteman missile requirements such as the refurbishment of boosters and blast valves. The increases are partially offset by decreased Titan missile maintenance and modification installations.

($M, TY)

	FY 82	FY 83	Price	Program
Engines	238.2	280.9	+10.6	+32.1

Funds are required to provide overhaul and repair on weapon system propulsion units and engines for ground power units and auxiliary airborne equipment. The $32.1 million program increase is mainly the result of increased F100 engine/module (F-15/F-16 aircraft) repair requirements (4166 units in FY 83 versus 3501 units in FY 82) and J79-17 engine (F-4E/G aircraft) requirements increase of 25 engines in FY 83 over FY 82. The above increases are programmatically related to inventory and/or programmed flying hour changes. Other program changes are primarily related to the age distribution of the engines and resultant actuarial overhaul removal factors.

($M, TY)

	FY 82	FY 83	Price	Program
Other Major Equipment Items	103.3	116.1	+4.9	+7.8

Funds in this repair program finance the repair of a wide range of specialized equipment such as flight simulators, communications-electronics equipment, sound suppressors, training devices, special purpose vehicles and materials handling equipment. The $7.8 million program growth is primarily attributable to the aging of equipment and negotiated repair/remanufacture needs of the using commands.

($M, TY)

	FY 82	FY 83	Price	Program
Exchangeables	1358.6	1577.2	+61.4	+157.2

The repair of exchangeables or recoverable components comprises the largest single category in the DPEM program. The exchangeable repair program supports aircraft, missiles, engines and other major equipment items. The large program growth of $157.2 million results from increased flying hours and/or inventory of our more advanced weapon systems (A-10, E-3, F-15 and F-16 aircraft) with their larger numbers of subsystems and components. Other changes include (1) increased repair of B-52, C-135 and F-111 components relating to airframe aging, avionics and electronic countermeasure systems, and new components added through modifications; and (2) increased support to depot repair/overhaul of major end-items, including weapon systems. These increases are partially offset by the reduction of requirements for repair of support equipment for aircraft and missile systems.

($M, TY)

	FY 82	FY 83	Price	Program
Area/Base Support	45.9	51.6	+1.5	+4.3

Area support is the maintenance and/or technical assistance provided by the depots to the operating commands to assist them at base level in performing unprogrammed equipment maintenance tasks which are beyond base-level capability. Base support is that field level maintenance provided by the Air Logistics Centers (ALCs) to the tenant units assigned to their bases. Examples of activities which receive this support are the F-16 Wing at Hill AFB, Utah, the B-52 Wing at Robins AFB, Georgia, and the E-3A (AWACS) Wing at Tinker AFB, Oklahoma. The program growth of $4.3 million primarily supports new systems requiring computer software support, increased requirements for precision measurement equipment calibration and maintenance support for base/tenant units.

	($M, TY)			
	FY 82	FY 83	Price	Program
Contract Policy	0	350.0	0	+350.0

The Air Force is requesting $350.0 million of additional one-time obligational authority and revision of Section 709 of the Defense Appropriations Act to permit continuation of the economical practice of letting 12 month DPEM contracts any time during the year. These contracts will be funded within the O&M appropriation rather than with Industrial Funds as had been the previous practice. This funding policy change is in accordance with Congressional direction provided in reports on the FY 1982 Department of Defense Appropriation Act. The policy change concerns only the manner in which the Air Force will fund depot maintenance contracts and not the actual performance of work; thus, the added obligational authority, if approved, will have no outlay impact.

Mr. Chairman, this concludes my overview of the FY 1983 Air Force O&M budget request for depot maintenance. I would like to express my thanks to the Committee for its efforts in searching out the elements of readiness and for putting emphasis on improving our ability to effectively and efficiently perform our mission. I am sure the Committee and the Air Force will mutually benefit from this hearing.

Thank you for your interest and support.

OSD GUIDANCE ON ZERO BACKLOG

Question. There are no directives or instructions defining zero backlog, nor are there official OSD directives advising the Services to reach a zero backlog. Instead, during the POM review process and in the Consolidated Guidance, OSD has indicated that zero depot backlog should be a general goal.

Although reducing the depot maintenance backlog would appear to be a worthy goal, was any analysis performed that showed improved readiness ratings would result from going to a zero backlog?

Answer. It is difficult to directly translate the funding of depot maintenance programs into readiness indicators in peacetime. History and experience have demonstrated that readiness is influenced by many factors, including depot maintenance funding. Because of the interaction of these factors it has generally been found that in the short term, readiness—that is, mission-capable rates—tends to remain fairly stable when the depot maintenance program is underfunded. This stability is primarily the result of human effort put forth at the field level to keep peacetime mission capable rates up but often at the expense of our ability to meet mobilization requirements. Actions taken include war reserve material kit withdrawals, increased cannibalizations from other aircraft or other systems, and increased demands on the lateral support system until spares are no longer available. With an underfunded depot maintenance program, assets removed from war reserve material kits or from authorized peacetime stocks cannot be replaced because the funds are not available to repair the reparable carcasses.

It must also be remembered that the depot establishment has an overriding responsibility to support mobilization. To this end, and with anticipated high intensity at the outset of any conflict, it is critical that ready-for-issue assets be available almost immediately to provide the necessary materiel support. In the event of conflict it may be too late to begin reducing the backlog. There is no question therefore that depot maintenance backlogs will affect our responsiveness in mobilization.

Question. What would be the measurable impact on readiness of a 5 percent or 10 percent across the board backlog in depot maintenance?

Answer. As indicated earlier, the funding of depot maintenance program is not directly translatable into readiness indicators in peacetime. However, the Services have rather rigid policies to meet their inventory needs through repair when an item is reparable. Generally, they do not buy an item in lieu of repairing a reparable. The primary reason for this is the lower repair costs, running on the average about 15 percent of the buy cost. Hence, the procurement requirement for replacement spares assumes that all reparables are repaired. Any interruption or delay in repair would create immediate and serious impacts.

A 5 percent or 10 percent across the board backlog in depot maintenance would result in increased cannibalizations, increased removal of items from WRM kits, and increased lateral support in peacetime and would lessen our readiness to respond to mobilization requirements in a timely fashion.

Question. If zero backlog is a proper maintenance position to be in, why have there been no OSD directives setting this as an operational goal for the Military Services?

Answer. Since attainment of a zero unfunded backlog is largely dependent on funds made available for that purpose, it appears appropriate that guidance be provided in the same document that establishes planning factors for most DoD activities—namely, the Defense Guidance. DoD Directives generally set down relatively long term policies and are not well adapted to publishing fiscal goals. The appropriate vehicle for issuing such guidance to the Services is the annual Defense Guidance document.

CONTRACT DEPOT MAINTENANCE

Question. The military services meet a substantial portion of their depot maintenance requirements through contracts with private firms.

How is the decision made to perform depot maintenance by contract rather than in-house for each weapons system as it enters the inventory?

Answer. DoD policy as stated in DoD Directive 4151.1, "Use of Contractor and Government Resources for Maintenance of Materiel," is that:

"The extent of facility capability and capacity within the Military Departments for depot support of mission-essential equipment will be kept to the minimum required to ensure a ready and controlled source of technical competence and resources necessary to meet military contingencies."

The policy therefore calls for the decision in the first instance to be based on the need to maintain a capability to meet mobilization requirements. After that determination is made economy becomes the next consideration. In addition, DoD Directive 4151.16, "DoD Equipment Maintenance Program," states that:

"In planning and acquiring depot maintenance support capability for new weapon systems, subsystems, and components the Military Departments will seek (1) to achieve weapon system or equipment end item readiness at an early date; and (2) to reduce the risk of premature investment in logistic support capability, through the use of phased organic maintenance support for systems, subsystems or components which are unstable in design or have a high risk of change."

This is sometimes referred to as "interim contractor support" pending establishment of an organic capability.

In practice the decision as to source of depot maintenance is made by the appropriate Service as each of its weapon systems enter the inventory.

Question. How much of the 22 percent increase in fiscal year 1983 depot maintenance will be done on contract?

Answer. In the case of the Army its fiscal year 1983 depot maintenance program increased 13.9 percent or $154 million from fiscal year 1982. Of this increase approximately 20 percent is estimated to be done on contract (this includes the Mainz Army Depot, a GOGO facility).

For the Navy $554.0 million is budgeted for program growth in fiscal year 1983. $215.4 million, or 38.9 percent of the total, is planned for contractural support.

The growth in Air Force depot maintenance is related to major mods such as the C-5 wing, E4A to B and EF-111; increased flying hours; and increased inventory of systems such as the F-15, F-16, and E-3A. Much of this work by its nature, such as the above mods, is done through contract. In looking at the total depot maintenance program the planned in-house employment level for the Air Force for fiscal year 1983 is essentially the same as fiscal year 1982. Thus, any increase in workload would go to the contract sector.

Question. The GAO has pointed out that work assigned to a contractor is treated differently than work done in-house. For example, if an aircraft is sitting waiting to be inducted into an in-house facility, it would be counted as backlog, and no funds would be obligated until the first work is actually begun on the aircraft. If that same aircraft were sitting at a contractor's plant waiting for induction, it would not be counted as backlog, and funds would be obligated on the books.

How can DoD accurately define its backlog if the backlog in contractor plants is not included?

Answer. Other than for damaged aircraft, such as might occur in a crash or fire, an aircraft is not sent to a depot or contractor plant until it is ready for induction. This means the input is funded. A damaged aircraft might be held up for some time waiting for delivery of structural members from production.

It is, however, possible to have reparables for which there is no requirement stored at a contractor's plant until a requirement arises. Since no funds would be applied, such items would not be counted as backlog.

Question. Is DoD obligating money before it is really necessary, because you really don't know precisely when the contractors are inducting items for depot maintenance?

Answer. In no case is DoD obligating funds unnecessarily. There must be an order to repair a specific quantity under the terms of the contract before repair begins. The Services each have systems for tracking inductions and production.

Question. Do you have any idea of the level of work carried over from one year to the next in contractor plants?

Answer. Yes, documentation exists in each of the Services identifying what is in the plants and the approximate amount of work to be performed. The amount carried over varies with the complexity of the work involved and is consistent with efficient production line utilization. The amount varies from about 10 percent for aircraft components to as much as 25 percent for more complex work such as airframes and major shipboard components such as gun mounts.

Question. What kind, and how often, is execution feedback from commercial contractors received by the Services relative to timely execution of this work?

Answer. Generally speaking, production data from contractors is provided on a monthly basis, but in some cases it can be made available more frequently.

CRITERIA AND DEFINITIONS OF ZERO BACKLOG

Question. The military departments compute depot maintenance backlog levels on different factors: readiness indicators in the Navy; maintenance management levels in the Army; and depots' ability to start work in the Air Force.

Has OSD evaluated the feasibility of establishing common criteria and definitions to be used by all three Services?

Answer. OSD uses the following definition for zero backlog during the POM and budget reviews. It is important to remember that the term refers to zero unfunded backlog. It is defined as:

The full financing of all depot maintenance efforts which are required to be funded in the applicable fiscal year and which (1) can be input to the depot maintenance process during the year; that is, the input is not constrained by factors other than financial resources (such as non-availability of parts, insufficient workforce, lack of contractor source, or inadequate facilities) and (2) the input will be available; that is, it is not being extended to meet operational requirements of our forces or being held until sufficient quantities are available to realize economies of scale from batch processing, etc. Since depot workload is funded on induction, the financial requirement covers a carryover amount of work for completion early in the succeeding year.

The key points are that only that workload which is executable is considered in determining when a program is fully funded and the backlog is zero.

Secondly, it should be recognized that projections of workload and backlog are made far in advance of the execution year and changes in requirements up and down will occur and the actual backlog may differ from the projected backlog. This does not affect the requirement to try to achieve a "zero unfunded backlog."

Thirdly, it is difficult to translate depot maintenance programs directly into readiness indicators in peacetime. However, the depot has an overriding responsibility to support mobilization. To this end, and with anticipated high intensity at the outset of any conflict, it is critical that ready-for-issue assets be available almost immediately to provide the necessary material support. In the event of conflict it may be too late to begin reducing the backlog. There is no question therefore that depot maintenance backlogs will affect our responsiveness in mobilization.

We recognize that the Services may execute their depot maintenance programs in different ways, but that does not mean that they have a different definition.

Question. The Air Force excludes some mission-essential items from its annual budget requirements; the Navy only reports engine repair requirements for front line and carrier based aircraft; and the Army withholds 25 percent of gross requirements for maintenance management level. Since each of the Services has different criteria for determining requirements, does OSD have a handle on the total depot maintenance requirements?

Answer. The Services' criteria for determining requirements are not incongruous. The Air Force cannot relate to the statement that some mission-essential items are excluded from its annual budget requirements. The Air Force does not exclude valid maintenance requirements from its annual budget requirements. The Navy reports all aircraft engine repair requirements, regardless of type, model or series. The Army's procedure does exclude a maintenance management level of about 25 percent in order to assure an executable flow of workload from one year to the next. One exception is aircraft where a maintenance management level is not used.

OSD does not believe it essential that each Service have precisely the same methodology for establishing requirements in order to evaluate the validity of those requirements.

Question. A zero backlog may be achieved by obligation funds against total requirements. However, this does not mean that maintenance has been completed. What is the level of work awaiting repair at depot facilities for each of the Services, broken between work not yet inducted, and work begun but not yet completed?

Answer. Funds should be obligated only for such efforts for which an agreement to perform depot maintenance efforts exists. Therefore, the achievement of a zero unfunded backlog requires contractual agreements which will provide for the performance of depot maintenance requirements. Zero backlogs cannot be achieved merely by obligating funds when no contractual agreement to perform the depot maintenance effort exists. We can provide for the record the amount of work at our in-house facilities which is not complete. I do not believe that the financial management systems at all of our industrial fund activities readily distinguish between how much of this effort has already commenced and how much is about to commence.

Question. Do the Services have a standard for an acceptable level of work on hand?

Answer. The OSD standard relative to the desirable level of work on hand is an amount of work which is approximately equal to one repair cycle's worth of effort. This provides for an additional level of work which can be efficiently managed and scheduled and avoids undesirable lulls in the workload. This standard, however, is a general rule of thumb and acceptable levels of work on hand can be expected to vary by commodity and activity.

DEPOT MAINTENANCE VERSUS MODERNIZATION BACKLOG

Question. OSD makes a distinction between backlogs for depot maintenance and modernization requirements and tracks them separately. For example, if a mod is planned for installation on an aircraft during its programmed depot maintenance (PDM), and the PDM was done, but not the modification, OSD wants this shown as a backlog of modernization work, not a depot maintenance backlog.

What merit is there in maintaining what appears to be an artificial distinction?

Answer. Depot maintenance efforts are intended to restore equipment to its previous operational status or prevent further deterioration. Modernization efforts, however, are intended to add an additional dimension not previously present. Accordingly, depot maintenance and modernization efforts frequently have different priorities. Additionally, depot maintenance requirements vary somewhat with the level of operation of the equipment. Modernization efforts do not. The installation of modification kits is frequently performed in conjunction with depot maintenance efforts. However, this is done for reasons of economies and efficiencies and not because of the similarities or inter-dependencies of these two programs.

Question. How much is included in the fiscal year 1983 budget request for modernization requirements, and what is your planned backlog?

Answer. The Army fiscal year 1983 budget includes $98.5 million for modernization. The planned backlog for modernization is zero.

The Navy fiscal year 1983 Congressional budget submit contains $214.4 million for the aircraft modification installation program. An additional $102.8 million would be required to fully fund the program.

The Air Force has $496.6 million included in its fiscal year 1983 budget for modernization requirements. We do not have a planned backlog in this area. (AF O. & M., $465.8 million ANG, $21.3 million AFRES, $9.5 million)

Question. What happens that DOD plans for a mod installation during PDM and then does not follow through? Is it an absence of mod kit, funds to install it, etc.?

Answer. The modification installation budget is formulated based on kit procurements, delivery schedules and aircraft availability. Any adjustments to kit procurements, delivery schedule slippage and adjustment to planned aircraft induction for operational reasons cause deviations to the budgeted installation plan. Safety of flight or urgent kit installations are usually accommodated by a field team or "drive-in" mod installation.

DEPOT MAINTENANCE ZERO BACKLOG DEFINITIONS

Question. In an April 13, 1982 report entitled "Defense Budget Increases: How Well Are They Planned and Spent?" the GAO recommended that the Services define to the Congress what they mean by "zero backlog" in depot maintenance. The GAO found that OSD and each of the Services meant something different when they told the Congress that they were budgeting for a zero backlog.

Before discussing what the Services mean by zero backlog, it is necessary to first pin down some general terms as they relate to depot maintenance. What is the official DOD definition for a "depot maintenance requirement"? (Note: GAO defines it as "a major end item or significant component that is due for inspection, repair, or overhaul during the budget year.")

Answer. Depot maintenance is defined in DOD Directive 4151.16 as that maintenance which is the responsibility of and performed by designated maintenance activities, to augment stocks of serviceable materiel, and which is in support of Organizational Maintenance and Intermediate Maintenance activities by the use of more extensive shop facilities, equipment and personnel of higher technical skill than are available at the lower levels of maintenance. Its phases normally consist of inspection, test, repair, modification, alteration, modernization, conversion, overhaul, reclamation or rebuilding of parts, assemblies, subassemblies, components, equipment end items, and weapons systems; the manufacture of critical non-available parts; and providing technical assistance to intermediate maintenance organizations and other activities. Depot maintenance is normally accomplished in fixed shops, shipyards and other shore-based facilities, or by depot field teams. A depot maintenance requirement therefore is an identified need for the above type of work.

Question. What is a "funded requirement"? (Note: GAO defines it as "a major end item or significant component that will be inducted into the depot for inspection, repair or modification during the budget year.")

Answer. The GAO definition is basically correct. However, a more precise definition would read: "a major end item or significant component for which the inspection, repair, or modification is planned and funded."

Question. What is a "backlog"? (Note: GAO defines it as "the amount by which total maintenance requirements exceed funded maintenance requirements.")

Answer. Definition of an unfunded backlog should read: "the amount by which total *executable* maintenance requirements exceed funded maintenance requirements."

Question. What is "carryover"? (Note: GAO defines it as "funded maintenance requirements which were not completed during the current budget year.")

Answer. Concur with GAO definition. (The term "carryover" applies primarily to efforts for which funds have been obligated. It excludes amounts included in unfunded backlogs.)

UNSERVICEABLE ASSETS

Question. For each fiscal year, the Services determine the total amount of unserviceable assets requiring depot work during the budget year. Next the Services establish a level of funding for depot maintenance. If the level of funding is less than the total requirement for unserviceable assets, a backlog exists; that is, unfunded unserviceable assets constitute a maintenance backlog. If the level of funding equals unserviceable assets, a zero backlog exists. However, a zero backlog does not mean that all unserviceable assets have been repaired. Is that true? What is excluded from the backlog?

Answer. It is essentially correct. There may be some unserviceables for some reason for which there is no requirement or which cannot be inducted during the fiscal year. These would be excluded from unfunded backlogs. For example, there may be ten unserviceable F-4 aircraft landing gears, but there may be a repair requirement during the budget year for only eight. The remaining two are not counted as backlog.

Question. The Services in determining the amount of unserviceable assets do not include unexecutable requirements in their compilation. Unexecutable requirements include items that cannot be inducted for maintenance because of operation commitments, or the item cannot be repaired due to the unavailability of necessary modification kits or spare parts. Thus, zero backlog means a planned maintenance program that is executable and does not mean that all unserviceable assets will be inducted into the depot maintenance program. What do you estimate to be the dollar value of each Service's true backlog that will still remain at the end of fiscal year 1983?

Answer. Army and Air Force project no backlog (items requiring maintenance in fiscal year 1983 and unfunded). Navy projects that in fiscal year 1983 eleven ships cannot be inducted due to operational commitmensts.

DEPOTS DOING LOWER ECHELON WORK

Question. Contrary to the Army maintenance concept of performing maintenance at the lowest possible level, the Army has been performing many tasks at combat vehicle depots which should have been performed at lower maintenance echelons. Passing combat vehicles "up the line" for maintenance was especially prevalent in the European deployed forces, and as a result, much of the Mainz Army Depot's workload was lower echelon maintenance work.

The Army agreed that passing combat vehicles up the line for maintenance was a problem in Europe. They claimed it was caused by a lack of maintenance capacity at intermediate maintenance organizations which resulted from tooth-to-tail reductions in deployed forces in earlier years. Army officials stated that numerous initiatives are underway to provide increased maintenance capacity including (1) more emphasis on Host Nation Support; (2) extensive analysis of essentiality of certain maintenance tasks; (3) better utilization of the existing force; and (4) productivity enhancement measures as well as improved concepts and support doctrine.

What is the status of each improvement initiative, and when is each projected to be completed?

Answer. Host nation support agreements are presently being negotiated by USAREUR which will allow the U.S. Army Materiel Development and Readiness Command to utilize the services of the NATO Maintenance and Supply Agency (NAMSA) for both peacetime and mobilization requirements in time of war. These ongoing actions result from the enactment of Public Law 96-323. This initiative is currently awaiting the resolution of problems involving the legality of an umbrella agreement between NAMSA and USAREUR.

In reference to the essentiality of certain maintenance tasks, all maintenance tasks are being reviewed to eliminate, as far as practical, work which does not contribute to the basic serviceability of the equipment. For example, all Depot Maintenance Work Requirements (DMWR) for all commodities are being reviewed with expected completion in the 1984-85 timeframe. The Reliability Centered Maintenance (RCM) concept is another initiative whereby the depots are reducing overhaul and repair work to an essential minimum. The Combat Vehicle Evaluation (CVE) program, a component of RCM, has been initiated which identifies, through an onsite inspection process, candidates for depot level work. By carefully screening equipment, the program insures that depots perform the appropriate level of maintenance and minimizes the amount of lower echelon work being evacuated to the depots.

The better utilization of the force is most apparent in Europe, where the Army has, where practical, realigned its fiscal year 1982 and fiscal year 1983 general support programs to facilitate training and transition to war. This effort at the general support level, accomplished under the Theater Army Repair Program (TARP) concept, enhances USAREUR's readiness and sustainability by insuring that Specialized Repair Activities (SRA) are fully workloaded, available support capacities are utilized, repetitive programs at the same facility are maximized, and host nation support and contracting are used where feasible. This program, since its inception in 1975, has grown substantially from 647,000 manhours to 2,014,000 manhours this fiscal year. It is projected that workload in fiscal year 1983 will be 2,285,016 manhours, thus continuing the trend toward reducing reliance upon higher echelon capabilities.

All the previously stated measures contribute to productivity enhancement by eliminating or reducing maintenance to minimum essential tasks.

Question. To what extend has maintenance capacity increased as a result of these initiatives?

Answer. While the initiatives have reduced the required manhours to overhaul/repair a given item, an exact measurement of increased capacity has not been determined. Since the initiatives are relatively new, sufficient data is not yet available for an analysis of this potential increase in capacity.

COMPARISON OF WORK METHODS AND PRACTICES BETWEEN CONUS DEPOTS AND MAINZ

Question. GAO reported in August 1980 that there were significant differences in the amount of time it took for the Army's Government-owned contractor operated depot in Europe (Mainz), and the various combat vehicle depots in the continental United States (CONUS) to overhaul the same end items and components. Generally, the (CONUS) depots required more labor hours and longer timeframes for similar repair or overhaul work than Mainz.

In response to this GAO report, the Army formed a task force to develop comparability standards between Mainz and the CONUS depots. Items addressed in this study were to include (1) differences in the depot maintenance work standards, especially in the cleaning and painting area; (2) differences in operational philosophy—CONUS depots put vehicles into a "like new" condition, while Mainz only repaired vehicles as necessary; (3) a formal system of interchange of productivity ideas between CONUS depots and Mainz; and (4) procedures for establishing category I engineered labor standards.

What is the status of comparability study?

Answer. The study has been completed and approved by Headquarters, U.S. Army Materiel Development and Readiness Command.

Question. If it has been completed, what were its results? Its cost savings?

Answer. The study made several recommendations which are currently being implemented. These include: relaxation of cleaning and painting standards, intensive review of all depot maintenance work requirements to assure that only necessary work is performed, clarification and approval of pre-shop analysis and serviceability check on equipment included in the overhaul program to insure that the items are valid overhaul candidates, publication of reliability centered maintenance procedures, approval of waivers and deviations to all depots with like missions to permit implementation of increased efficiencies while formal documentation is in process, examination and improvement of procedures for establishing time standards to take advantage of management benefits derived from increased time standards coverage, and exchange of productivity ideas between depots.

Since these actions are in the process of being implemented, it is too early to assess cost savings.

Question. For the record, please provide specific information on each area addressed in this study.

Answer. The August 1980 tasking given to the Comparability study group by Headquarters, Depot System Command, directed it to investigate and conclusively resolve the Mainz—CONUS comparability issue by analyzing six categories of interest: direct labor hours, base operations cost, reliability centered maintenance (RCM), quality and testing, work standards, and operational philosophy.

The study group identified and documented seven sources of manhour differences ranging from surface treatment and level of overhaul and accounting. After explaining why differences in manhours for specific combat vehicles existed, the group concluded that although the distinctions between Mainz and CONUS depots result in direct labor manhour variations; these do not represent operational inefficiences, but rather real differences in scope of work, method of operation, accounting, and procedures. Two of the sources of manhour variations, surface treatment and level of overhaul, showed the greatest potential for change and greater efficiency. Subsequently, they were incorporated into the recommendations for implementations.

Base operations cost and indirect costs were the next major topics of analysis. The group contended that a significant amount of effort at CONUS installations is devoted to support of mandated programs that are not required at the contractor operated Mainz plant. However, when taking this into consideration, the conclusion reached was that when compared on the basis of an equal amount of work performed, the efficiency of the CONUS installations is very close to that of Mainz.

The status of reliability centered maintenance at Mainz and CONUS depots varies greatly. The study group also discovered that Mainz's current overhaul practices utilizing pre-shop analysis and "an overhaul as required" philosophy are more in keeping with the reliability centered maintenance concept. As a result of the detailed operation analysis the group considered, the study group developed a proposal on surface treatment and pre-shop analysis that will accelerate the practice of the RCM at CONUS depots.

In the area of quality and testing, Mainz revised its inspection procedures to include controlled inspection, i.e., inspection of specified items of all vehicles produced. This change will insure proper quality assurance.

The issue of work standards was the fifth subject examined. The primary conclusion reached relative to CAT I engineered standards coverage was that it is not a valid measure of standards program execution and performance. It was also noted that there is a significant difference that did not impact coverage levels but did affect the standard time allotted to a task. This is an issue mentioned in the recommendations that bears further examination.

Lastly, operational philosophy was considered. In general the study group believed that although this topic was difficult to quantify, it was a very real distinction between Mainz and CONUS depots. Mainz was considered to have greater management flexibility and to be less constrained by government regulations. Work force staffing differences, incentives and bonuses, and overtime were addressed.

These are the six major areas discussed in the study. Some differences were justifiable and explained. In other cases improvements were identified and initiatives have been approved and implementation is in process.

MOBILIZATION PLANNING

Question. Effective depot mobilization planning requires resonably accurate projections of wartime requirements and identification of resources needed—facilities, equipment, repair parts, and skilled people.

In its 1980 report, GAO concluded that the Army had not done sufficient depot mobilization planning to accomplish the above objective. In the case of the Mainz Army Depot in Germany, GAO expressed concern about the probability of depot survival, and Mainz's ability to hire and retain people in wartime, since much of the workforce is subject to draft by the German Army. As a result, GAO raised questions on whether the depot workload could be maintained during mobilization.

The Army concurred with GAO's findings and recommendations in the mobilization planning area. For example, during fiscal year 1982 hearings before the Senate Appropriations Committee, Army officials stated that two ongoing studies (DARCOM Support to Europe and a USAREUR-wide Host Nation Support study) would, in part, address GAO's concerns about the potential problems at the Mainz depot.

What specific actions has the Army undertaken to address GAO's recommendations in the depot maintenance mobilization planning area?

Answer. DMWR's have been scrubbed to realize current peacetime repair standards to be placed in effect subsequent to M-day.

Repairs will not be accomplished for cosmetic purposes and unserviceable assets will be screened to accept items which can be repaired most rapidly.

DARCOM Support to Europe Study has been completed and a new organization has been established in Europe which will be responsible for the mobilization planning of DARCOM's depots in Europe along with USAREUR's projected mobilization requirements.

Host nation support agreements are presently being negotiated by USAREUR which will allow DARCOM to utilize the services of the NATO Maintenance and Supply Agency for both peacetime and mobilization requirements in time of war. These ongoing actions are the result of enactment of Public Law 96-323.

DARCOM EUROPE OFFICE

Question. On July 1st, DARCOM opened an office in Europe manned with about 80 people. Why is it necessary to add another administrative layer between DARCOM's European facilities and DARCOM's headquarters?

Answer. The addition of a DARCOM-Europe headquarters does not add another layer between our European facilities and this headquarters. This is an extension of HQ, DARCOM to coordinate, control, or command DARCOM's multitude of activities located throughout the European theater. The majority of DARCOM's facilities and activities presently report to a subordinate command and, in most cases, this will not change. This element is the eyes and ears of the Commanding General and will serve as the single DARCOM focal point for European commanders. The organization has been carefully established to facilitate, not impede, communications between Army elements in the European theater and the supporting CONUS logistical base.

For DARCOM to establish a single focal point to coordinate the complex logistical issues was done at the request of, and in coordination with, CINCUSAREUR. This arrangement will provide for better coordination of DARCOM support to European commands.

Question. What is the fiscal year 1983 request for this European headquarters in terms of both dollars, civilian personnel, and military personnel?

Answer. The fiscal year 1983 program is $2.4 million. There were 27 military slots and 55 civilian spaces provided to create this headquarters. All positions came from within DARCOM's resources.

Question. What does the Army anticipate to be the long term benefits of this new organizational layering?

Answer. As indicated in response to your earlier question, the DARCOM-Europe headquarters does not add another layer between our European facilities and this headquarters, but is an extension of HQ, DARCOM to coordinate, control, or command DARCOM's multitude of activities located throughout the European theater. This arrangement will provide for better coordination of DARCOM support to European commands.

The long term benefit which will be received by the Army is improved readinesss. This will be accomplished through increased responsiveness to the commanders in the field, better fielding techniques and coordination, reduced pipeline costs, and better utilization of manpower. With the introduction of 100+ new systems to be fielded in the European theater in the near timeframe, DARCOM's role will increase to an unprecedented level. Organizational lines of communication will be streamlined and will lead to a better integrated logistics program which, in turn, will strengthen the support provided to the Army in the field. A single mobilization plan for DARCOM elements in Europe will lead to more efficient wartime planning. The benefits will strengthen logistical planning within the Army.

Question. It would appear on the surface that the DARCOM organizational structure would be violated with the existence of this headquarters. For example, it would appear that the Mainz Depot would no longer report through DESCOM but rather would be split out and report to this European headquarters which then would report diretly to DARCOM. Is this correct?

Answer. Mainz Army Depot will still be under the command of Headquarters, Depot System Command (DESCOM) and will receive its workloading direction from this command. With the establishment of Headquarters, DARCOM—Europe, Mainz Army Depot will be under the operational control, not command, of this new organization in order to centralize DARCOM management in Europe and improve communications with USAREUR field commanders. Also, the Commander of Mainz will have expanded responsibilities since he will also serve as Deputy Commander of Maintenance, DARCOM—Europe, the Commander's advisor on DARCOM's Europe maintenance mission.

Question. The Mainz Germany Army Depot is direct O. & M. funded, and has a separate stock fund for long lead supplies. All other Army depots are industrial funded.

What is the rationale for making the Mainz Depot O. & M. funded?

Answer. Mainz Depot is a Government-Owned/Contractor-Operated (GOCO) facility while the CONUS depots are all Government-Owned and Government-Operated (GOGO) and are individually funded.

The Industrial Fund operates on a buyer/seller relationship utilizing the concept of funded project orders to reimburse Industrial Fund cash for the cost of operations. United States Code (Titles 10 and 41) prohibits the use of project orders in other than GOGO facilities. The treatment of Mainz as a commercial contract funded directly by OMA is therefore necessary.

Question. If it is logical for Mainz to be O. & M. funded, why is it not logical for the other depots to be so funded?

Answer. Because we are prohibited from extending the industrial fund concept to government-owned/contractor operated (GOCO) facilities does not mean it should be eliminated from our CONUS depots. The Army Industrial Fund is a job order system which allows Army managers to focus on cost of performance rather than obligations. It is a proven and responsive management system which is based on sound business and cost accounting principles.

Question. It was indicated at Mainz that procurement funding was used for the construction of four different facilities. Specifically, what was accomplished with procurement funding, and why was military construction funding not used?

Answer. At one time in fiscal year 1981 there were plans for four construction related projects to be undertaken at Mainz Army Depot with the use of procurement appropriated funds. Three of these projects were approved and implemented while one project was deferred. Of the three implemented only one provided funds for actual construction, while the others provided engineering funds.

The value and a brief description of each project follow:

a. Project No. 6818087 ($10.553 million). Of the total project value, $3.082 million was used for the alteration of an existing building at Mainz. The alterations will provide a clean room facility that will permit Mainz to repair and overhaul M60A3 and M1 tank thermal sights and laser range finders. The remaining funds on the project were used to acquire the equipment required to perform this mission. This project was included in the fiscal year 1981 budget.

b. Project No. 6818371 ($0.449 million). This project provided Mainz with the funds required to perform the engineering design that must precede the construction of a fire control repair building. After the start of fiscal year 1981, the US Army Materiel Development and Readiness Command (DARCOM) approved this project within its delegated authority as a late start. The project for constructing this facility (No. 6838371) has been included in the President's fiscal year 1983 budget as a part of the Production Base Support program. The building will provide the space required to repair and rebuild fire control for the Bradley Fighting Vehicle.

c. Project No. 6818373 ($0.113 million). This project provided Mainz with the funds required to perform the engineering design that must precede the construction of an automatic test eqiupment facility. This project was also approved by DARCOM as a late start. This project for constructing this facility (No. 6838373) has been included in the President's fiscal year 1983 budget. The building will provide the space required for the automatic test equipment that will be used to maintain the M1 tank and Bradley Fighting Vehicle.

d. Project No. 4810007 ($2.785 million). Of the total project value, $0.683 million was required for construction purposes while the remainder would be for equipment required to rebuild double-pin track for the M60 tank and the M109 self-propelled howitzer. This project was deferred, however, and has not yet been funded.

The Weapons and Tracked Combat Vehicle Appropriation (activity 1) was the only appropriation used to provide the construction related funds. The total amount committed in fiscal year 1981 for construction related projects is $3.644 million.

Military Construction Appropriated funds were not used at Mainz because the depot is a government-owned, contractor-operated (GOCO) facility. DoD Directive 4275.5, which governs the Acquisition and Management of Industrial Resources, authorizes the use of procurement funds for GOCO construction. All procurement funded projects that provide for construction are identified to Congress. Procurement funds are used for construction at other GOCOs such as the Detroit Army Tank Plant and the Stratford Army Engine Plant.

RCM APPROACH TO MAINTENANCE

Question. In the past, the Army routinely selected combat vehicles for overhaul on the basis of a designated number of miles accumlated since new or their last overhaul, rather than their condition. This procedure has resulted in many overhauls which may have been unnecessary. For example, an October 1979 M-60A1 RCM pilot program status report showed that of 254 tanks evaluated, only about 27 percent, or 68 tanks, were in a condition which required overhaul. The remainder could have received the necessary maintenance using a less costly inspect and repair procedure. The difference in the cost of the two procedures was about $45,000 per tank in 1980.

During fiscal year 1981 hearings before the House Appropriations Committee, the Army was asked why, in view of the above, it had failed to reflect any savings from the use of the RCM approach to maintenance—the inspect and repair as necessary procedure. The Army stated that it did not have a good enough data base to project such savings until it would get through 1981, and perhaps well into fiscal year 1982.

Since the Army should by now have the data base for projecting savings associated with the implementation of RCM, what cost savings have been generated as a result of applying RCM procedures to combat vehicles in Europe and CONUS?

Answer. The data base for projection of overall Army savings, which includes the impact on field maintenance, will be available in fiscal year 1983 after completion of the fiscal year 1982 combat vehicle evaluation program. Savings realized from the combat vehicle evaluation program to date in depot maintenance amount to $19.8 million.

Question. Please identify savings by fiscal year and location.

Answer. The savings (cost avoidance) in depot maintenance, without consideration of possible impact on field maintenance, amounted to approximately $7.0 million in fiscal year 1981 and a projected $12.8 million in fiscal year 1982. These savings were due to changes in the proportion of M60 series tanks overhauled versus repaired concurrent with the tank conversion program.

The $7.0 million RCM cost avoidance in fiscal year 1981 occurred as part of the CONUS program. The overhaul and repair programs in USAREUR were very limited (total of 8 tanks).

The $12.8 million RCM cost avoidance in fiscal year 1982 divides into approximately $10.8 million achieved in the CONUS tank program and $2.0 million in the USAREUR tank program.

Question. Are these cost savings reflected in the Army's fiscal year 1983 budget? If not, why?

Answer. Although there is not a specific item in the fiscal year 1983 budget labeled "RCM", savings were considered in several ways. A reduction of $10 million for estimated RCM savings taken in fiscal year 1982 was projected in fiscal year 1983. The structure of the program, as in the split between overhaul and repair, reflects the RCM philosophy and the savings inherent in the increased emphasis on inspect and repair. Furthermore, the AIF prices used to develop the Depot Maintenance Program reflect the lower cost of RCM procedures where these are in effect.

ZERO BACKLOG

Question. GAO has expressed concern about the depot maintenance zero backlog goal for several reasons. First, it is inefficient. The increase in the size of the work force and the use of temporary employees have increased the cost per unit of output. Reducing the backlog to zero precludes an orderly scheduling of deferred work in economic lots for efficient processing. We are paying a price to process the added equipment. Secondly, included in the workload is a mix of high and low priority items.

In October 1981 a Defense Audit Service report concluded that the Army's $91.6 million depot maintenance backlog and the

Navy's $236.8 million of aircraft and ship backlog as of April 1981 were not related to readiness problems.

The aircraft rework programs in both the Navy and the Air Force experienced frequent funding shifts in response to changing requirements during fiscal year 1981. These shifts generally involved transferring obligational authority from one maintenance subprogram to another.

Why is it necessary to reduce the backlogs to zero so quickly? Would a more gradual reduction be more sensible and efficient?

Answer. Our goal is to reduce unfunded depot backlogs at the earliest opportunity. (Unfunded depot maintenance backlogs consist of unserviceable assets which are both reparable and required in the applicable fiscal year but for which necessary funding has not been provided.)

The depots have an overriding responsibility to support mobilization. To this end, and with anticipated high intensity at the outset of any conflict, it is critical that ready-for-issue assets be available almost immediately to provide the necessary materiel support. In the event of a conflict it may be too late to begin reducing the backlog.

Question. Isn't it true the Services have been utilizing a great deal of overtime and on-call or temporary workers to accomplish the extra work?

Answer. It is true that on-call and temporary workers are being used. Such use is a cost-effective means of accommodating temporary surge workload requirements and emergencies. Projected overtime levels are set reasonably low so that there is a reserve capacity should the need for additional manpower develop during execution of the program.

Question. Is this a cost-effective way of reducing the backlog? If so, could you provide some specific examples of how it is cost-effective?

Answer. Selective and judicious use of both temporary employees and overtime is a cost-effective method of operation. For example, the cost of paying overtime is less expensive than hiring more full time permanent employees, and there is less training expense involved.

There are several situations that make overtime use a cost-effective means of mission accomplishment. Some common examples follow:

Overtime may be required for repair and other work to meet urgent readiness requirements.

Overtime may be required for emergent new work required to meet operational commitments.

Work such as sandblasting and painting is sometimes worked on a weekend in order not to interrupt other work.

Question. Temporary employees also provide flexibility to accomplish workload surges and to meet requirements which may be revised during execution of Service programs. This is especially true at industrial depot maintenance activities where workload is subject to the most fluctuation and where the skills needed to do the work are often interchangeable between Service activities and the private sector. This situation fosters the existence of a labor pool which may often be tapped on a temporary basis. Use of temporaries in such situations also allows the Services to better manage overtime usage and provide for a smooth phasing of full time permanent employment to meet long term work force skill balance requirements.

What specific impact on readiness and surge capability at the depots does the overtime and use of on-call temporaries have?

Answer. Excessive overtime use on a routine basis reduces mobilization surge capabilities because surge capability is based in part on increased use of overtime. Use of temporary employees provides management flexibility and provides a pool of trained workers that could be hired permanently in time of an emergency.

Question. How much of the depot maintenance increases that ordinarily could be performed organically is being performed by contractors because the depots can't absorb the increased workload? What are the comparative costs of doing this work by contract versus organically?

Answer. Generally speaking, the decision to contract a workload is not made because the organic depots cannot absorb increases. Rather, organic depots are consciously workloaded on the equivalent of a one-shift, 5-day, 40-hour week because of the anticipated need for flexibility to surge in time of war. In individual cases there may be specific reasons why a workload is contracted, e.g., certain critical skills may not be available in the quantity required at an organic facility.

With regard to the workload increases from fiscal year 1982 to fiscal year 1983—20 percent of the Army's increase will be contracted for, and 39 percent of the Navy's. Most of the Air Force's increase will be contracted for since it relates to major modifications for the C–5 wing and conversion of E–4As to E–4Bs (work usually done by contract).

A general statement cannot be made regarding comparative costs of doing work by contract versus organically. Such variable factors as available facilities and skills, level of current activity, and experience on similar work require that such comparisons be on a case-by-case basis.

Question. Have the Services identified the specific contents of their backlogs and made conscious decisions as to which items to fund and which could still be deferred without significantly affecting readiness?

Answer. In developing the Budget Year Program the Services identify requirements which are executable and must be funded. Not funding these requirements will have a serious impact on readiness. Thus, our goal has been a zero unfunded backlog of achievable repair requirements. In the case of Navy, funds were not requested for 11 ships since operational commitments preclude induction for required maintenance in fiscal year 1983.

Question. Are the efforts to eliminate the backlogs on track, or will zero backlogs continue to be a goal in future years?

Answer. Generally speaking, we will continue to strive for zero unfunded backlogs in the future. However, it should be kept in mind that projections of workload requirements are made far in advance of the execution year, and new or changed requirements may develop at any time and may affect the achievement of that goal. Increased requirements, for example, as indicated by information and experience not available at the time the fiscal year 1983 budget was formulated show that an unfunded backlog may exist at end of fiscal year 1983 if current trends continue. Additionally, depot management requirements must be considered in conjunction with all other DOD requirements. Thus, while desirable, it may not always be possible for the Department to achieve its goal of zero unfunded backlogs.

Question. Have the Navy and the Air Force analyzed the effect of frequent requirement changes of the aircraft rework programs and attempted to reduce the controllable factors?

Answer. The Navy recently reconvened an Aeronautical Maintenance Management Review team. The objective of this team is to investigate current aeronautical maintenance and supply management policies and procedures and to formulate findings and recommendations that will reduce the total cost of ownership for naval aviation while maintaining or increasing fleet readiness.

Specific management areas under review include:

Requirements determination;
Intermediate versus depot level of repair;
Accountability and responsibility;
Depot management;
Intermediate level management;
Funding systems;
Supply/maintenance interface;
Depot mobilization/combat support baseline;
Materiel management;
Cost procedures;
Cost reduction initiatives;
Cost drivers;
Decision support systems.

The Air Force analyzes its aircraft maintenance requirements through an annual review of each aircraft's maintenance work package and semi-annual reviews of maintenance and modification installation requirements. Each year a special Board consisting of engineers and weapon system managers reviews the quantities of aircraft to be worked as well as work package content. The work package review is done to ensure only necessary and needed work is programmed for accomplishment. The Board also looks at Analytical Condition Inspection results and other engineering data to determine if Programmed Depot Maintenance cycles should be changed or in the case of newer aircraft establishing Programmed Depot Maintenance cycle. The semi-annual reviews are conducted jointly by Air Staff, Air Force Logistics Command, and Air Logistics Center personnel to validate maintenance and modifications installation scheduling. Coordination of maintenance and modifications installation schedules is critical to the Air Force because it bases modification procurements on Programmed Depot Maintenance/Analytical Condition Inspection maintenance schedules. Thus, changes that do occur during program execution are mostly the result of late modification kit deliveries, unprogrammed requirements, schedule adjustments due to production delays on aircraft in facility and other factors beyond the control of weapon system managers.

Question. How much of the Air Force's $103 million backlog at the beginning of fiscal year 1981 impacted on readiness?

Answer. The $103 million backlog at the beginning of fiscal year 1981 was the carryover from fiscal year 1980. This shortfall represented $1 million in aircraft, $6 million for missiles, $7 million in engines, $12 million in other major equipment items, and $77 million in spares repair. All of this backlog impacted readiness. This shortfall included two KC-135 and F-1112 aircraft requiring damage repair; one Titan missile repair; 82 TF30, 36 J79, 9 J57 and 4 TF33 engine overhauls; spares repair for war reserve material kit replenishment and some major equipment repairs (special purpose vehicles, communication-electronic equipment, etc.)

NAVY AIRCRAFT READINESS INDICATORS

Question. The fiscal year 1982 DOD budget set a record for its size. Included in it was $1.4 billion for Navy aircraft depot maintenance. In justifying this request, the Navy testified last year that this funding would allow you to meet certain readiness indicators that it now appears you will clearly not meet.

For example, the Navy asked for funds to rework 100 percent of its aircraft components. No reduction was made by the Congress to that request. Now we are told you will only do 92 percent. What happened?

Answer. It should be recognized that projections of workload and backlog are made far in advance of execution. Changes in requirements are inevitable and actual backlogs often differ from those projected when the budget was developed. Fiscal year 1982 requirements have increased above those which were included in the budget.

Question. Last year, you also told us that only 6 percent of the airframes would be on extension, and it now appears the correct number will be 9 percent. You testified that you would only have 40 bare firewalls, and you apparently will have 80. And finally, we were told that the Navy's mission capable rate would be 64 percent if we funded the budget request, and now it looks like it will only be 60 percent which is almost exactly what it was in fiscal year 1981 and in fiscal year 1980. In fact, these readiness indicators show no real improvement in fiscal year 1982 over fiscal year 1981 levels despite the Navy's testimony in support of the fiscal year 1982 budget last year. Of course, the fiscal year 1983 budget shows that substantial improvements will be made this time if the requested funds are appropriated. How believable is this testimony?

Answer. Readiness indicators are an approximate measure of the adequacy of depot maintenance funding and are impacted by the relationship between funds required and funds available. Hence, if we experience an increase in requirements or a decrease in funding, the associated readiness indicators will probably deteriorate. The fiscal year 1982 Amended President's Budget fully funded all validated requirements identified at that time. These requirements have subsequently grown due to operational changes. Consequently, the projections for airframes on extension, engine bare firewalls, and mission capable rates have deteriorated accordingly. The Navy's testimony represents our best estimate of achievable readiness given the requirements and funding displayed in the budget.

Question. Should the Committee include the promised readiness levels in the bill so that it will be a legal requirement for you to execute the program in accordance with your testimony?

Answer. As the Committee knows, the process of developing a DOD budget request is long and complex. Depot Maintenance requirements for the budget must be estimated a year and a half in advance of the beginning of the fiscal year in which the maintenance work will be done. Depot maintenance requirements depend on a combination of many variable, including priority changes, most of which are impossible to predict in advance with precision. The associated readiness indicators are subject to these variables. Consequently, it is not deemed feasible to require that a specific level of readiness be achieved with the funding appropriated.

EXECUTABILITY OF NAVY'S FISCAL YEAR 1983 SHIP MAINTENANCE PROGRAM

Question. Eight naval shipyards and 26 major commercial yards together with design firms and material and equipment suppliers comprise the defense industrial base for shipbuilding and ship overhauls and repairs. There is increasing concern over the ability of the shipbuilding and ship repair industry to execute assigned maintenance workloads in fiscal year 1983 and beyond in a timely and cost-effective manner. Other Navy programs such as battleship reactivations, aircraft carrier service life extensions, and the Administration's accelerated shipbuilding program may adversely affect the timeliness, quality, and cost of the ship maintenance and repair program. Although the Navy's ship maintenance and modernization program has historically been plagued by (1) poor schedule adherence, (2) work package growth, (3) inadequate quality of workmanship, and (4) cost growth, the GAO has reported that the Navy does not plan to do anything different for the fiscal year 1983 program than it did for its fiscal year 1979–82 program.

In view of the Navy's "track record", and the fact that these problems are still with the Navy today, is it reasonable to question whether the Navy's fiscal year 1983 ship maintenance and modernization program is executable in a timely and cost-effective manner?

Answer. The fiscal year 1983 ship maintenance and modernization program is executable. GAO's report that Navy does not plan to do anything different for the fiscal year 1983 program is erroneous. The statement that ". . . these problems are still with the Navy today. . ." does not take into account the significant improvements that have been made in the past 2 years. Specifically improvement trends are evident in scheduling adherence, control of work package growth and quality of workmanship.

In years prior to fiscal year 1983, Navy's maintenance program was developed in three separate and distinct areas: scheduling, developing program requirements for maintenance and modernization and programming the resultant workload with the naval shipyard and the supervisor of shipbuilding (SUPSHIP) offices. This approach did not provide adequate communication between all parties involved throughout the process. For fiscal year 1983 the above three elements occurred concurrently during the Fleet Overhaul Scheduling Conferences conducted in September 1981. These conferences involved senior personnel from each command: shipyards, SUPSHIP's, and NAVSEA representing the "producer" element, type commander and fleet commanders representing the "customer", and the CNO ship sponsor representing "ownership". All participants were intimately involved in reviewing and adjusting the program and thus were able to knowledgeably agree on the executability of the fiscal year 1983 ship overhaul program. It is the opinion of the Navy that the entire programming process was immeasurably strengthened in fiscal year 1983 by this approach.

Navy programs such as battleship reactivations, aircraft carrier service life program (SLEP) and the accelerated shipbuilding program have been integrated into both public and private shipyard workload planning. These projections show clearly that adequate capacity and capability are available to execute the fiscal year 1983 and outyear programs while maintaining the improvement trend.

SKILLED MANPOWER SHORTAGES AT SHIPYARDS

Question. Critical to the accomplishment of the fiscal year 1983 overhaul and repair workload is the availability of skilled manpower. GAO found that there is a shortage of skilled manpower at all three naval shipyards it recently visited—Pearl Harbor, Norfolk, and Mare Island. All three shipyards anticipate having difficulties hiring qualified craftsmen to meet the increased demand, especially the submarine workload of the fiscal year 1983 program.

In view of the inability of shipyards to hire skilled craftsmen and the long time it takes to convert an apprentice to journeyman, will the 4,200 shipyard personnel increase have any impact on the execution of the FY 1983 ship maintenance and modernization program? If so, how?

Answer. The 4,200 personnel increase spread over eight naval shipyards will permit the execution of the FY 1983 ship maintenance and modernization program with less reliance on temporary employees and overtime.

Many of the temporary employees currently filling temporary positions will be converted to permanent full-time employees. These individuals are already trained in shipyard procedures and in many cases possess skills which can quickly be applied at the journeyman level.

Question. Considering the present shortages of shipyard skills, what has the Navy done to assure itself that sufficient skilled manpower is available to satisfy current and projected repair program requirements at the naval shipyards?

Answer. There is no shortage of unskilled labor available for hire in any of the labor markets in which naval shipyards are located, nor do the naval shipyards experience any difficulty in recruiting unskilled workers. The numbers of skilled craftsmen available for hire vary from trade to trade and from one labor market to another. For example, the Philadelphia Naval Shipyard may be able to find considerable numbers of skilled machinists in the local labor market at most times, but is seldom able to satisfy 100 percent of its machinist requirements with "off the street" hires of fully-skilled journeymen. Shipfitters and other trades that are peculiar to shipyards will almost never be found. In other labor markets there is virtually no pool of skilled craftsmen to draw from, and almost all new hires must be trained "from scratch" by the shipyard. Naval shipyards therefore plan their training programs on the historically validated premise that most of the people they hire into all trades will require extensive training.

The Navy is doing two things to assure sufficient numbers of skilled manpower to satisfy current and projected work requirements:

We are increasing the numbers of personnel we are enrolling in formal skills training programs. While the largest of these is the apprentice program, there are a variety of others—"pre-apprentice" programs, helper-trainee programs, helper-to-intermediate-level mechanic programs, and intermediate-to-journeyman programs, to name a few—each designed to take its trainees to a specified skill level and each targeted at a different population of trainees.

We are embarked on an ambitious program to modernize shipyard training by systematically analyzing the skill requirements of critical shipwork tasks and designing training modules to meet those specific skill requirements. The training modules will be highly flexible in structure and content so as to be readily adaptable to a wide variety of training situations, from use by instructors in group-paced training classes to use by individual trainees in self-paced independent study. The objective is to be able to rapidly impart to appropriate members of the workforce those specific skills that are needed for accomplishment of critical shipwork tasks.

Question. How successful have naval shipyard training efforts and apprentice programs been in satisfying manpower shortages in critical shipyard skill categories?

Answer. Naval shipyard apprentice and other training programs have been immensely successful in satisfying manpower shortages in critical shipyard skill categories. Since the first naval shipyard apprentice school was established at Mare Island in 1958, the naval shipyards have found their apprentice programs to be their most reliable, consistent, and effective source of skilled craftsmen. The efforts that are currently underway to modernize shipyard training are intended to improve and build upon our apprentice programs by making our apprentice training more job-specific, more efficient, and even more effective than it has been.

Question. For the record, please identify current skill shortages and number of apprentices undergoing training in these skills by shipyard.

Answer. Skill shortages are dynamic. The numbers of skilled workers in any occupation that are available for hire vary from day to day in each labor market. The naval shipyards have therefore relied in part on their apprentice program and other training programs to produce skilled workers that are in short supply. A list of 6,906 apprentices which are currently enrolled in 48 trades and crafts among the naval shipyards is appended hereto. These trades and crafts can be categorized as shortage skills for shipyards in that there are seldom enough of any of them to satisfy a labor-intensive shipyard's demand.

TABLE 1.—NAVAL SHIPYARD APPRENTICE ENROLLMENT, 31 DECEMBER 1981

Apprentice type	Nosl	Ptsmh	Phila	Norva	Chasn	LBeach	Mare	Puget	Pearl	Total
Air cond. eqt. mech.	0	14	0	26	12	14	3	21	22	112
Auto mech.	0	2	8	0	2	0	0	0	0	12
Boatbuilder	0	0	0	11	0	0	0	0	0	11
Boilermaker [1]	0	0	77	54	5	43	12	30	38	259
Boiler pt. eqt. mech	0	1	0	14	0	0	0	0	0	15
Boiler pt. op.	0	4	0	0	0	0	0	4	0	8
Carpenter/marine	0	0	10	0	1	0	0	2	0	13
Elec. pow. contrl.	0	0	0	0	2	0	0	8	0	10
Electrician [1]	0	94	98	153	75	59	92	85	26	682
Electrician high volt.	0	0	11	0	0	0	0	0	0	11
Electrician maint.	0	0	0	0	0	0	0	0	10	10
Eltr. msmt. eqt. mech.	0	0	0	0	4	0	0	0	0	4
Electronics mech. [1]	0	43	66	92	33	61	46	44	31	416
Eltr. mech. (maint.)	0	6	0	21	5	9	14	12	0	67
Electroplater	0	0	0	3	4	0	0	18	0	25
Fabric worker	0	7	0	14	8	1	8	10	15	63
Fire contrl. mech.	0	0	33	0	24	25	0	0	0	82
Hvy, mobile eqt. mech.	0	2	9	15	2	0	13	6	0	47
Inside machinist [1]	1	74	59	146	61	58	70	87	113	669
Instrument mech.	0	5	3	0	2	0	0	0	0	10
Indust. mach. mech.	0	0	4	0	0	0	0	0	0	4
Insulator	0	9	26	21	16	30	21	40	27	190
Joiner	0	0	0	0	0	0	0	0	0	0
Machinist (maint.)	0	7	0	36	19	11	16	6	9	104
Machinist (ord.)	0	0	0	0	0	22	11	0	0	33
Marine mach. mech.	0	0	90	0	0	0	0	0	0	90
Metal inspector	0	5	0	35	5	6	0	0	6	57
Millman	0	0	0	0	1	0	0	0	0	1
Metal fabricator	0	0	0	4	0	0	0	0	0	4
Molder/blacksmith	0	12	6	4	5	12	2	5	15	61
Optical instr. rep.	0	0	0	0	8	0	0	0	0	8
Ord. eqt. mech.	1	0	0	0	0	0	0	0	0	1
Outside mach. [1]	0	69	0	120	72	64	66	89	116	596
Painter	0	18	25	27	9	19	36	41	32	207
Patternmaker	0	0	3	4	1	0	0	1	3	12
Pipefitter [1]	0	157	154	132	104	62	98	92	75	874
Prod. mach. mech.	0	0	11	0	0	0	0	0	0	11
Proplr. mach.	0	0	9	0	0	0	0	0	0	9
Rigger	0	12	33	62	39	22	53	36	33	290
Sheetmetal mech.	0	29	81	68	45	49	53	81	42	448
Shipfitter [1]	0	47	97	85	46	67	89	75	51	557
Shipwright	0	7	10	28	11	24	27	22	22	151
Plastic fabricator	0	0	10	0	0	0	0	0	0	10
Toolmaker	0	2	0	0	14	0	0	12	0	28
Toolroom mech.	0	0	0	0	0	0	0	0	9	9
Welder [1]	0	55	120	80	50	65	52	73	45	540
Wharf builder	0	0	0	2	0	0	0	0	0	2
Woodcraftsmen	0	7	0	28	7	0	0	20	21	83
Total	2	688	1,053	1,285	692	723	782	920	761	6,906

[1] Critical skill shortage.

Question. What action is the Navy considering to overcome salary problems that impact on the hiring and retention of specific skills at the shipyards?

Answer. 1. Navy action being considered to overcome salary problems that impact on the hiring and retention of specific skills at the shipyards:

a. Accelerated promotions for Shift Test Engineers (Nuclear based on training program agreement).

b. Request OPM to extend direct hire authority to include GS–12 engineers.

c. Request OPM to extend special salary rates for welding engineers.

d. Seek legislative relief to correct pay inversion situations between supervisors and subordinates.

e. Legislative proposal for an alternative method to determine pay for scientists and engineers.

2. Existing Navy action to overcome salary problems that impact on the hiring and retention of specific skills at the shipyards:

a. Additional annual compensation for chief test engineers (CTE), assistant CTE's and Chief refueling engineers.

b. Special salary rates for radiological control monitors at two shipyards.

c. Engineer Development Program for paid academic studies in engineering.

d. Advanced in-hiring rates for engineers based on superior qualifications.

e. Financial assistance given to current employees seeking postgraduate education in engineering.

f. Use of the Upward Mobility Program to fill engineering technician jobs.

NAVY SHIPYARD USE OF OVERTIME AND TEMPORARIES

Question. The Navy has projected that an increase of 4,229 naval shipyard personnel and 161 SUPSHIP personnel is needed for fiscal year 1983 over fiscal year 1982. In addition, it appears that large amounts of overtime and substantial numbers of temporary hires are also planned. During last year's hearings before this Committee the Navy testified that based on their past experience "no more than three percent total overtime can be maintained for prolonged periods without increasing costs, employee fatigue, lower productivity, and ship overhaul completion delays. In addition, increased and prolonged overtime rates cause loss of flexibility and surge capacity."

How does the Navy justify the planned, large amount of overtime, which is presently running at twice the 3 percent goal stated during fiscal year 1982 hearings before the Committee?

Answer. The context of previous testimony was to consider 3 percent overtime as a goal for initial overtime assignment which would ensure that no shipyard would become overloaded if increases were required to be responsive to emergent fleet requirements. Without a surge capacity which is partly accommodated by selective additions in overtime, little flexibility exists to complete assigned work on schedule.

Question. To what extent will projected overtime rates and the number of temporary workers affect shipyard productivity, costs, quality of work and help completion schedules?

Answer. The judicious use of selected and controlled overtime and temporary employees will enhance delivery of ships on time, within cost and with requisite quality. Without the flexibility to obtain a level of temporary workers, the inevitable periodic swings in requirement for special tradepersons at a particular point in time will necessitate more overtime than would otherwise be required. Critical path jobs necessary to meet completion dates on a ship will often require 3-shift coverage to maintain appropriate momentum. This is particularly true during system testing. Similarly there are economies in using overtime in preparing for cardinal events such as undocking, shore steaming of the propulsion plant, light off of major combat systems equipment, etc. Further, the small number of shipyard personnel embarked aboard ship for sea trials will also work lengthy periods for a short time.

Temporary employees are valuable when specific skills are required for short periods of time. A typical example occurs at Philadelphia Naval Shipyard during execution of carrier Service Life Extension Programs (SLEP), which is much more like new construction than typical repair and modernization work. As a result, the requirement for selected trades such as riggers, laborers, painters, etc. peaks at certain times significantly above average required levels. In this instance, temporary employees are added to prevent use of excessive overtime by the baseline level of employees.

Quality of work is maintained by ensuring appropriate supervision for temporary employees as well as for fully tenured personnel. Similarly, overtime will be managed to ensure that it is applied only on critical jobs necessary for fleet readiness and related essential shipyard support.

PREAWARD SURVEYS, NAVY

Question. The Navy has assigned complex combatant ships to the private sector for accomplishment since 1976. A recent GAO report on Navy contracting for ship overhauls (PLRD-82-29, dated March 17, 1982) shows that work performed by the private yards on these ships has generally been plagued by time delays and cost growth. GAO's observations include:

There is no knowledge of the work a subcontractor may be performing or supplying to other Federal and private sector activities.

There is a tendency to rely almost entirely on prime contractors to provide data on subcontractor capabilities.

There is a shortage of critical labor skills similar to that experienced at naval shipyards which has not been identified.

Some master ship repair contract holders possess no electronics capabilities.

Electronics subcontractors are expected to be capable of installing and repairing latest technology, state-of-the-art electronics equipment for which they are unable to obtain schooling.

Since failure to assure that subcontractors are not overloaded with other commitments could adversely affect the prime contractor's ability to successfully complete an overhaul/repair in a timely and cost-effective manner, what actions does the Navy plan to take to assure itself that subcontractors are not already overloaded with other commitments?

Answer. Utilization of subcontractors by Master Ship Repair (MSR) (Prime) contractors is an area that receives close review during preaward surveys for overhaul/repair job orders. The prospective prime contractor is required to submit to the Supervisor, Shipbuilding, Conversion and Repair (SUPSHIP) a list of proposed subcontractors to be used for specific portions of a job order. A review is made of the capacity and capability of the subcontractor to perform utilizing the SUPSHIP's current knowledge of the subcontractor's commitment to other contracts and past performance on previous contracts. If a proposed subcontractor is unfamiliar to the SUPSHIP, more specific information is requested from the prime contractor. All deficiencies are referred to the prime for resolution. Failure to correct any major deficiencies with subcontractors may result in a preaward survey finding of "nonresponsibility" and no award of the contract.

Question. Does the Navy know the extent to which combat system and electronics subcontractors currently rely on moonlighters from naval yards or ship forces? To what extent?

Answer. Generally speaking, the Navy has no way of knowing the extent to which combat system and electronic subcontractors rely on moonlighters from naval shipyards or ship forces. Previous efforts to curtail this activity were rejected legally as a violation of an individual's rights. The only exception is that ship's force personnel are not permitted to moonlight on their own ship

Question. What other actions does the Navy plan to take to make preaward surveys more rigorous? When are they expected to be completed?

Answer. The Navy is taking action to improve the preaward survey process to assure the selection of only qualified contractors to perform Navy shipwork and identifying risk areas requiring corrective action before commencing the proposed shipwork. These actions include:

Development of criteria and guidelines to be used in risk evaluation.

Development of uniform scope, subject content, criteria and format for preaward surveys.

Development of preaward survey report format with a data base that supports recommendations made to the procuring contracting officer.

Providing guidance to SUPSHIPS for the selection of preaward survey team members and for the establishment of permanent teams within each SUPSHIP.

Developing seminars and providing instruction on risk evaluation techniques and preaward procedures. Conducting seminars at all SUPSHIPS.

It is expected that the above actions will be completed and incorporated into a revised preaward survey manual by December 1982.

Question. What problems have Small Business Administration rules and regulations created for the Navy's ship maintenance and modernization program? What steps has the Navy taken to resolve these problems?

Answer. SBA appeals to have all or part of ship overhauls set aside for small business have on occasion delayed award and subsequently caused overhaul schedules to be changed.

This appeals process, as prescribed in DAR 1-706.3, describes a series of communications between the DOD agency involved and SBA that could take 30 days or longer to resolve, particularly if the appeal must finally be resolved by the "Secretary of the department concerned."

There is little that the Navy can do in this area. NAVSEA and the SUPSHIPS are getting written justification from Fleet Commanders when schedule and/or work requirements preclude total or partial small business set asides. However, this does not stop SBA offices from appealing the Navy's actions.

Question. What has the Navy done to ensure that as more combatant class ships are shifted from the public to private shipyards, an adequate pool of skilled craftsmen will be available to accomplish the required work?

Answer. The Navy intends to selectively assign an increasing number of the more complex ships to the private sector over the next few years in order to permit the private shipyards to build an experienced base of skilled craftsmen. As more combatant ships are assigned to the private sector, the Navy has required a significant increase in detailed technical information on how offerors propose to accomplish the required work. The selection of the successful contractor is predicated on the submission of a technically acceptable proposal as determined by a detailed evaluation by Navy technical and management personnel. Typically, these evaluations include an assessment of the technical qualification of the contractor personnel to be dedicated to the work, comparison of the numbers of skilled workers required versus those available for the work and past experience/performance by the contractor.

Question. Has consideration been given to providing electronic subcontractors access to some of the Navy's technical training courses and facilities?

Answer. The types of training which would be appropriate for electronic subcontractors are provided by shipboard systems and equipment vendors and by the Naval Education and Training Command. These courses are made available to electronic subcontractors.

INDUSTRIAL BASE FOR NUCLEAR SHIP REPAIR AND CONSTRUCTION

Question. The nuclear industrial base has been contracting steadily since the late 1960's. In the shipbuilding area the number of yards involved in nuclear ship construction has been reduced from seven (5 private and 2 public) to only two today—Electric Boat and Newport News. For nuclear ship repair work the base has also shrunk fron nine to six yards (5 public and 1 private). Newport News is the only private yard which currently still repairs the Navy's nuclear ships. At the same time the Navy's scheduled repair work (overhauls and selected restricted availabilities) is projected to increase by more than 30 percent between fiscal years 1981 and 1985, and nuclear ship construction and conversion work is expected to more than double over the next five years.

Based on the Navy's current and projected nuclear ship repair and cosntruction workloads, what is the shortfall in capacity and capability at each nuclear capable shipyard?

Answer. The capacity and capability of nuclear-qualified shipyards are adequate to support the fiscal year 1983 maintenance program for nuclear ships. Nuclear ship overhauls typically require an eighteen-month preparation time prior to commencement. This advanced planning time is used for development of the repair and alteration packages, material ordering, facilities preparation and staffing, training, and qualifying the necessary work force. Each fiscal year 1983 overhaul is well within this advanced planning time frame. No shortfalls have been identified based on explicit reviews by each naval shipyard assigned to perform nuclear work.

The capacity and capability of Newport News and Electric Boat to construct nuclear ships are adequate to support both ongoing and the fiscal year 1983 FYDP program submitted to Congress. Newport News has the capability to deliver two SSN's per year in addition to construction of a CVN. Electric Boat can deliver two SSN's and one TRIDENT per year.

Question. What plans does the Navy have for making up these shortfalls?

Answer. There are no plans to increase the number of nuclear capable yards. At the present time the nuclear ship capability and capacity is sufficient to accommodate both the ship construction plan and the maintenance and modernization workload.

Question. What specifically is the Navy doing to hire, train and retain nuclear qualified craftsmen, technicians and engineers?

Answer. The Navy has thoroughly reevaluated the requirements for nuclear trained personnel and has taken aggressive action to develop new incentives that are designed to attract and retain nuclear qualified tradesman, technicians and engineers. Some of the more positive actions are listed as follows:

a. Chief Test Engineers, Assistant Chief Test Engineers and Chief Refueling Engineers are now receiving additional annual compensation.

b. An accelerated promotion plan has recently been approved for nuclear qualified Shift Test Engineers.

c. Nuclear engineers pursuing additional academic studies can be reimbursed under the Development Engineer Program.

d. Advanced in-hiring rates are available for engineers with superior qualifications.

e. Special salary rates have been instituted for radiological control monitors at two of the naval shipyards.

The effort applied to improve the base of qualified nuclear personnel is paying off, and current projections are that there will be adequate nuclear trained personnel to accomplish the fiscal year 1983 ship maintenance and modernization program provided that the present level of naval shipyard CIVPERS ceiling is authorized. The Navy must, however, continue to seek new incentives that are designed to perpetuate nuclear skills to ensure adequately trained tradesmen, technicians and engineers are available to accomplish the nuclear ship workload in the future.

EMERGENT WORK AT NAVAL SHIPYARDS

Question. An important factor impacting on the executability of the naval shipyards assigned workload is an adequate provision for emergent or unscheduled work. Although the Navy is now including higher estimates for emergent work, a NAVSEA Appraisal Team Letter Report dated November 6, 1981, on Pearl Harbor Shipyard operations as well as comments by the Norfolk Naval Shipyard Commander suggest that these projections may be understated. Any significant level of emergent repair work will also lead to the temporary "stripping" of manpower from one or more ships in the early stages of overhaul.

What provisions have been made to ensure that emergent repairs are accomplished in a timely, cost-effective manner?

Answer. Emergent repairs typically are the highest priority jobs worked in a shipyard. As such they will be completed in the shortest practicable time. A pre-allocated reservation of man-days is budgeted by each shipyard to do restricted and technical availabilities, of which emergent repairs are a substantial element. The amount of man-days budgeted has been judiciously selected, and historical data indicates that the budgeted amount has been executed. Further, shipyard management closely monitors emergent work requirements against the planned allocation and makes necessary adjustments to assure timely, cost-effective performance.

Question. With the scheduled workload that is at 100 percent of the shipyard capacity and requires the use of large numbers of temporary employees and a considerable level of overtime, what is the likelihood that public shipyards will be able to handle emergent repairs even at a low level of activity?

Answer. The Navy has complete confidence that the public shipyards can accommodate emergent repairs. This is based on the fact that emergent work is budgeted and, therefore, is included in the workload when the shipyards schedule work to 100 percent of capacity. Furthermore, this planned level of emergent work is included within the constrained level of permanent and temporary budgeted overtime. If fleet requirements so demand, the level of overtime can be selectively increased to respond to urgent fleet needs.

Question. To what extent will such repairs be accomplished in the private sector?

Answer. Because the nature and complexity of emergent work vary widely, the extent to which this work is accomplished in the private sector is limited. However, emergent repairs are assigned to qualified private master ship repair contract holders when the qualification of such contractors is appropriate for the work involved. Some emergent work of this type is underway almost continually in all areas of major fleet concentration. Such emergent work is, however, judiciously assigned so as not to interfere with scheduled ongoing overhauls and SRA's in the private sector. Approximately $56.3 million is budgeted in fiscal year 1983 for this work.

Question. What assurances are there that the private yards will have the flexibility to respond immediately to the problem?

Answer. The Navy maintenance managers in the various ports are fully aware of the private sector capacity and capability to accept emergent work and perform it in an expedient manner. Armed with this knowledge, work can be contracted to the private sector on a mission necessity basis. The private sector has in the past demonstrated the flexibility to respond to emergent work in most instances. However, the naval shipyards remain the primary source of expertise, skill and capacity for solving critical fleet repair requirements, and they have an even greater flexibility than the private shipyards to respond immediately to emergent fleet needs.

Question. If stripping skilled workmen from ongoing overhaul work is required to accomplish emergent repairs, what action will be taken to minimize the impact on crew readiness—since overhaul will be proceeding concurrent with efforts of ship's force to conduct training and prepare for departure?

Answer. Because emergent work receives high priority, there may be cases where manpower is required from lower priority ships. In these cases where the potential for adverse impact on crew readiness and work exists, schedules are modified to minimize this impact. A variety of resources are available to assist the crew in its training and repair responsibilities concurrent with shipyard work during overhaul. For example, some jobs initially assigned to ship's force for repair may be transferred to the shipyard for accomplishment to allow the crew to concentrate more on training. Additionally, type commander assistance teams are available to provide training assistance and assessment of ship's force capability. In some circumstances intermediate level maintenance resources can be used to assist ship's force.

Question. What level of emergent repairs has been experienced in past years, and what are the budgeted levels for fiscal year 1983?

Answer. The Navy has budgeted $281 million for short term availabilities and emergent repairs in fiscal year 1983, which is approximately the same level of funding budgeted in prior years. Based on historical data, about $125 million will be expended on work performed in naval shipyards. The remainder will be expended on work accomplished in the private sector and in the Ship Repair Facilities in Guam, MI; Subic Bay, PI; and Yokosuka, JA.

SHIP OVERHAUL WORK PACKAGE REDUCTIONS

Question. Historically, uncontrolled work package growth has affected the ability of the Navy to execute its ship overhauls and selected restricted availabilities at public and private shipyards in a timely and cost-effective manner. Navy statistics for complex combatants (cruisers, destroyers, frigates, etc.) generally show steady increases in the repair and alteration work packages until about fiscal year 1981.

The Navy recognized this problem and directed shipyard commanders and SUPSHIPS that growth in work and new or emergent mandatory work should not exceed 10 percent of the work package authorized at the fleet scheduling conference. Additionally, while the Navy reduced the scope of alteration work in the Operation and Maintenance, Navy (O&M,N) budget request to Congress by about $117 million from previously programmed levels, it had procured most of the required alteration material or equipment in fiscal years 1980 to 1981, because the average procurement lead time for major equipments is approximately 24 months. Currently Navy plans are to install the procured material, which is funded through the Other Procurement Navy appropriation, in the fiscal years 1985 to 1987 time frame rather than during fiscal year 1983.

What was the Navy's basis for limiting work package growth to 10 percent?

Answer. The Navy has not limited work package growth to 10 percent but has established a goal of improving overhaul planning to reduce the growth to no more than 10 percent. It is not intended that the 10 percent growth goal be used to limit or affect any decision to accomplish necessary work during an overhaul. The sole purpose of the 10 percent growth goal is to provide a clear, unequivocal statement to guide the improvement of the overhaul planning process.

Question. Deferring the installation of already procured alteration materials raises questions as to whether the material may be obsolete by the time it gets finally installed and whether the fiscal year 1983 Other Procurement, Navy appropriations should not be reduced to ensure installation of the material or equipment already procured in fiscal year 1981. Does the Navy believe that the $117 million scope reduction in alteration work will adversely impact fleet capability?

Answer. The budget process provided for a balanced level of both maintenance and modernization consistent with fleet requirements and available funds. While the overall program was reduced, the $117 million does not represent a funding cut on individual ships because this figure was derived by comparing funding levels for the various types of ships in fiscal years 1982 and 1983. While useful as an indicator, this figure cannot be correlated to actual funding or scope reduction, as the fiscal 1983 program has different classes of ships within the types used to categorize program scope. Additionally, the actual alterations on ships of the same class vary in both quantity and scope. Therefore, the funding comparisons cannot be used as a measure of fleet capability change from one year to the next. The fiscal year 1983 Other Procurement, Navy appropriation should definitely not be reduced "to ensure installation of the material or equipment already procured in fiscal year 1981." Alterations with the largest amount of OPN equipment tend to be highest priority, such as the installation of new or replacement weapons and sensors. Conversely, by policy Navy defers those alterations that normally include little if any OPN equipment, such as habitability, reliability or maintainability improvement alterations. The reduction in the FMP for fiscal year 1983 did not result in any significant amount of uninstalled OPN equipment which could serve as the basis for a fiscal year 1983 OPN reduction.

Question. What is the basis of the Navy's belief that the alteration material already procured will not be obsolete when it gets installed during fiscal years 1985 to 1987?

Answer. The fiscal year 1983 Fleet Modernization Program (FMP) will support installation of procured material as scheduled without carryovers into 1985 to 1987. The majority of alterations being deferred is labor-intensive with short-lead time material requirements. Deferring these alterations not only prevents stockpiling of material but also allows reprogramming on short notice if funds become available. It should also be noted that alteration material does not become obsolete. The FMP contains alterations which provide weapons system upgrades, reliability and maintainability fixes and other installations which are required now and will continue to be required until the entire fleet or class is backfitted. Even under ideal conditions it takes several years to complete installation of a given alteration due primarily to extended overhaul intervals (84 months in SSN 637). Accordingly, alterations are not developed unless long term effectiveness is assured. In most cases deferred alteration material is used in the near term either on the original ship or to support accomplishment of the same alteration on another ship.

Question. What are the major categories of material procured, but not to be immediately installed, and the obsolescene factor associated with each category?

Answer. The fiscal year 1983 Fleet Modernization Program as currently structured will support installation of procured alteration material as scheduled without requiring major deferrals into other fiscal years. As a general rule alterations deferred due to subsequent funding reductions are labor intensive vice equipment oriented. Rationale for this policy is that equipment intensive alterations are associated with urgently needed combat system upgrades or major readiness fixes. Deferred labor intensive alterations usually have short lead time materials, much of it shipyard furnished. If deferred, these alterations have minimal material carryover and can be rescheduled on short notice if funds become available. Additionally, these alterations can usually be accomplished in availabilities outside regular scheduled overhauls which greatly reduces deferral time. It should also be noted that alteration material does not become obsolete. Even under ideal conditions it takes several years to complete fleetwide accomplishment of a specific alteration. For example, the installation schedule for the AN/SPG-65 radar system is from fiscal years 1981-90; the HARPOON Missile System from fiscal years 1980-87. These long-term installation schedules result from extended procurements and longer intervals between overhauls (84 months on SSN 637). There are no specific obsolescence factors associated with alteration categories, and most alterations are expected to be effective for at least a decade after installation. However, equipment may be modified prior to or after installation to keep it current with associated threats and state-of-art technology.

NEW CONTRACTING TECHNIQUES FOR COMPLEX COMBATANTS

Question. Because contracting methods used by the Navy during the 1970's (invitation for bids and fixed price contracts) did not result in effective overhauls in private shipyards, the Navy is moving toward request for proposals and cost type contracts, especially for complex combatants. GAO noted that the new methods will probably not result in maximum benefits unless the contractor selected has prior experience in overhauling the ships awarded to him for overhaul. Navy statistics show that in general all private yards—even Bath, which is considered by many as one of the top private yards—experienced difficulties overhauling ships of a given class for the first time. These difficulties are reflected in late overhaul completion and cost growth trends. How will the Navy assure that they receive adequate competition using request for proposal procedures?

Answer. The Navy assesses the competitive climate prior to determining the solicitation area in order to facilitate adequate competition. Procurement interest letters are sent to potential contractors in the ship's homeport area to ascertain whether sufficient competition will exist if the solicitation area is limited to the homeport. If it is ascertained that inadequate competition will prevail, then, in accordance with NAVSEAINST 4700.7, the solicitation area is expanded to ensure that a competitive climate is achieved.

Question. Does the Navy have sufficient staff trained in the contracting methods to effectively administer them? If not, what actions is the Navy taking to overcome this problem?

Answer. The Navy recognizes that the administration of cost type contracts require a greater level of sophistication than is required for fixed price contract administration. As an interim measure the Navy has developed an in-house training course in Cost Contract Administration which will be taught to key personnel at each SUPSHIP which will be administering cost contracts. Moreover, Navy is exploring the feasibility of contracting for a professionally developed course which would greatly enhance the expertise of field personnel in administering cost type contracts.

Question. In view of the historical trend of late overhaul completions and cost growths for ships which have been overhauled in the private shipyards for the first time, what efforts has the Navy made to ensure that the DD-963's recently assigned to the private sector are overhauled on time and within projected costs?

Answer. The Naval Sea Systems Command has awarded five contracts for the overhaul of a total of nine (9) DD 963's during the past year. Each of these contracts was a Cost Plus Award Fee (CPAF) contract in which the contractor's eventual fee is determined by the success achieved in performing the overhaul. Thus, the contractor is assured of a three percent fee, but recognizes that an additional fee of 1-10 percent can be achieved by performance in three specific areas: quality, schedule, and cost control. For the two overhauls thus far completed under these CPAF contracts the Navy has found that a tremendous incentive was provided for the contractor to complete the overhaul on schedule and within projected costs. While more experience must be gained before drawing any final conclusions, initial indications are that the CPAF contract is an ideal vehicle for providing the cost and schedule incentives essential to successful overhauls of Navy ships.

DECREWING OF SHIPS DURING OVERHAUL

Question. In 1977 the General Accounting Office recommended that the Navy decrew its ships in overhaul and reassign such crews to operational ships in the fleet. As a result, when the USS Conyngham entered overhaul, all personnel were permanently reassigned except for a small nucleus crew of 23 people. The decrewing of the *Conyngham* necessitated the transfer of all ships force work, preventive maintenance ships security, fire watches, and quality assurance to the shipyard.

On May 1, 1981, the Navy published a report which concluded that decrewing of ships in overhaul is not desirable due to the limited skill payback, high costs, failure of the Light Off Examination by the *Conyngham* and the fact that the *Conyngham* required an additional 2.9 months before she was ready for sea. In a subsequent GAO report published June 23, 1981, the Navy was quoted as saying the *Conyngham* overhaul "went two months over schedule and cost $12 million more than planned." Is this a reasonable description of the Navy's findings with regard to the decrewing proposal?

Answer. The *Conyngham* overhaul, because of decrewing, cost an additional $12 million above and beyond the normal cost of overhaul without decrewing. This expenditure is attributable primarily to the cost of ship's force industrial work migrated to the shipyard, but also includes the cost of preventive maintenance, security, quality assurance and the cost of the conduct of the pilot program. The *Conyngham* required an additional 2.9 months (above the DDG Class average) for crew work-up period; thus the ship was delayed 2.9 months in joining the fleet.

Question. On July 29, 1981, the Naval Sea Systems Command published the "Annual Report on the Status of the Shipbuilding and Ship Repair Industry of the United States". In this report the Navy addresses the USS Conyngham overhaul decrewing and states that "the ship proceeded very well and was delivered on 22 August 1980, ahead of the CNO delivery date, with a substantial underrun in cost". Should the Committee believe the official Navy publication which states the *Conyngham* overhaul took too long and was too costly or believe the other official publication which states that it was completed ahead of schedule and cost less than planned?

Answer. The information contained in both publications is correct and not inconsistent. The Annual Report of the Status of the Shipbuilding and Ship Repair Industry evaluated the *Conyngham* overhaul on the basis of the enlarged work package and extended schedule which were necessary to accommodate the decrewing concept. The *Conyngham* overhaul did complete within the revised CNO duration and increased funding. However, as noted in the Pilot Ship Program Report, decrewing resulted in an additional 2.9 months and $12 million above the average DD-2 Class overhaul/work-up time and cost without decrewing.

Question. One of the favorable findings of the study of the *Conyngham* overhaul concludes that the "selective decrewing or draw down of those ratings contributing less than 10 percent of their time to essential repair work during the overhaul is recommended, providing there are openings for such ratings in the fleet".

How many man-years has the Navy actually drawn down for those ratings contributing less than 10 percent of their time for overhaul work in order to make more man-years available to the fleet?

Answer. The Navy has selectively drawn down some ships in overhaul to ensure that deploying ships are manned at personnel levels that provide for full combat readiness. Most of these transfers have involved experienced petty officers in specific critical skills. Each deploying ship and each ship in overhaul has been handled on a case basis on their individual requirements. The Navy has not kept records of the number of man-years involved in these transfers. However, the man-years made available to the fleet under the "less than 10 percent criterion" would be small since most must be used to assist in the supply overhaul program, or to accomplish preventive maintenance on equipment or systems not being overhauled; they are also assigned quality assurance duties or administrative tasks such as security watches, fire watches, mess cooking, self-help habitability projects, etc., all of which would be quite expensive if the Navy is required to pay for their accomplishment by the overhauling activity.

Question. The requirement for decrewing a given rating during overhaul would not seem to be that dependent upon the fleet being short that specific rating. In other words, if the fleet does not need additional man-years in a given rating and that rating contributes less than 10 percent of its time to essential repair work during overhaul, why not delete it from the structure entirely since the Navy would appear to be keeping people in the Navy that are not needed in the fleet or in the overhaul program?

Answer. As a general rule all personnel assigned to a ship are needed and should remain assigned to the ship during overhaul. Those few who do not accomplish essential repair work do accomplish a myriad of other essential administrative-type duties such as mess cooking, fire watches, security watches and manpower intensive self-help habitability projects. These functions would be very expensive to migrate to the shipyard if not performed by the ship's crew. The overhaul also provides a period for off-ship training and annual leave, both of which are difficult to accomplish when the ship is operating. This does not mean that small numbers cannot be transferred to fill fleet vacancies as long as the attendant transfer cost and unaccomplished work are both recognized and funded.

Question. As a practical matter it would not be cost effective to transfer those personnel "who contribute less than 10 percent of their time to the overhaul". In most situations the ship would no sooner complete the transfers than it would have to requisition the replacements to have them aboard in time to train to help the ship leave overhaul. As we move toward shorter duration overhauls this problem would be exacerbated.

For the record, show for fiscal years 1982 and 1983 the total number of personnel (in man-years) who contribute less than 10 percent of their time to essential repair work during overhauls; the number of man-years that are not reflected in this total due to decrewing which has actually been planned to take place; and the number of man-years of ratings contributing less than 10 percent of their time to essential repair work during overhaul that are not planned to be decrewed that could in fact be absorbed by the fleet due to shortages of those ratings.

Answer. The Navy does not have a system that is dedicated to capturing this information. However, it is doubtful if the number is significant or if any savings could be achieved through this procedure. As was learned from the CONYNGHAM experiment the personnel transfer costs and the cost of migrating the essential administrative type functions to the overhauling activity are significant and would probably exceed any man-year savings which might be achieved.

Question. The Navy's manning problem is not one of total man-years but one of skills and rank. To the extent that an individual is decrewed and sent to the fleet because of the criticality of his rating, there should be an offsetting decrease of a man-year or perhaps more of unskilled or inappropriately skilled personnel who are no longer required in the fleet structure. How many such "bumped" man-years have been deleted from the force structure in fiscal years 1982 and 1983?

Answer. There is currrently a shortage of approximately 20,000 trained petty officers. The personnel who become available through selectively decrewing ships in overhaul are assigned where vacancies exist due to the shortfall. Therefore, there are no "bumped" man-years as suggested in the question.

PERCENTAGE OF OVERHAUL WORK IN NAVY YARDS

Question. The fiscal year 1982 Defense Appropriation Bill provides that not more than $2,800,000,000 should be available for the performance of alteration, overhaul and repair of Naval vessels in Navy shipyards. The budget requests that the limitation be increased to $2,950,000,000.

How much work does that mean will be available for work outside of Navy shipyards?

Answer. In fiscal year 1983 the dollar value of work outside the Navy shipyards is 1,727.8 (dollars in millions).

Question. How does that compare with the amount available in the current fiscal year?

Answer. In fiscal year 1982, the current fiscal year, dollar value of work outside the Navy shipyards is $1,459.9 (dollars in millions).

Question. On a percentage basis how does the fiscal year 1983 proposal compare to the fiscal year 1982 program?

Answer. The percentages in each year are virtually identical: 36.5 percent in fiscal year 1983 and 36.7 percent in fiscal year 1982.

ORDERING UNNEEDED MATERIAL

Question. Valid material requirements are necessary to ensure that enough material will be available to support ship alterations. The GAO has reported that substantial amounts of material are ordered twice, once from the commercial market and once from the Federal supply system, and that other unneeded material was ordered before ship alteration plans were defined and drawings completed.

How much material (dollar-wise) was ordered and delivered for the 780-ship alteration deferred during fiscal year 1980?

Answer. Requested data is not readily retrievable. To obtain the data a massive research effort would be required that is significantly beyond the capability of resources that could be devoted to it. Therefore, we are unable to supply the information requested.

Question. What was done with the material ordered and delivered for those deferred alterations?

Answer. Material was used for alterations on the same ships at later dates or for the same alteration on other ships in the near term.

Question. How much will become obsolete before use?

Answer. SHIPALT material does not normally become obsolete. Most alterations deferred are rescheduled for near term accomplishment on the same ship, or the material is used to support similar installations on other ships.

Question. $13 million of material was ordered and delivered for the overhaul of the USS *Constellation*, but the overhaul has been rescheduled for fiscal year 1983. Where, how, and when will this material be utilized?

Answer. At the time the decision was made to defer the USS *Constellation* overhaul to fiscal year 1983, $13 million of material was on order, but only $4.9 million had actually been delivered. Approximately 10 percent of this delivered material has been diverted to other ships with the remainder in storage to be used during USS *Constellation's* fiscal year 1983 overhaul.

Question. How many ship alterations and overhauls were deferred during fiscal year 1981?

Answer. Three overhauls were deferred in fiscal year 1981. Latest figures for fiscal year 1981 indicate that less than 30 percent of budgeted alterations (661) were deferred, while an equal number of high-priority requirements were substituted. Because of the dynamic nature of the program execution Navy must be able to substitute high-priority alterations to meet changing operational and military requirements.

Question. How much material was ordered in fiscal year 1981 for these deferred overhauls and alterations?

Answer. Requested data is not readily retrievable. To obtain the data a massive research effort would be required that is significantly beyond the capability of resources that could be devoted to it. Therefore, we are unable to provide the information requested.

Question. About 19 percent of the material ordered by the Puget Sound Naval Shipyard to support recently completed overhauls and alteration on four ships was not used. What are the reasons for this amount of material to be left over? Is the 19 percent for these four ships similar to the percentage of materials left over on all overhauls?

Answer. Ship overhauls are labor-intensive, and any material delays are extremely expensive. Efficient management of overhauls dictates heavy emphasis on assurance that all required material is on hand to support overhaul execution. Although this may result in some excess material, it is a relatively small expense for overall efficiency of an operation where labor is 80–90 percent of total cost. By transferring to other follow-on overhauls, selling back to the supply system or making material available to other industrial activities, very small dollar losses result. In the case of the four ships audited by GAO the latest figures from Puget Sound Naval Shipyard advised that the total cost of these overhauls was $123 million and at the end of overhaul excess material amounted to $3.2 million or 12 percent of material ordered. This unused material was retained by the shipyard for future use or was returned to the

Supply System for credit. This 12 percent figure approximates the average statistic for returned to supply or used elsewhere.

Question. Could you explain why $1.8 million or 29 percent of the materials ordered for the overhaul of the USS *Cavalla* was unused at the completion of the overhauls?

Answer. The major reason for having excess materials is the necessity to order long lead time material such as steel plate, bar stock, cables and piping, etc. prior to actual requirements being fully known. Although there are ongoing initiatives to identify material requirements earlier in the overhaul planning process, material estimates will still be required. Fortunately most excess materials are transferrable and can be utilized in other overhauls. Excess material at completion of *Cavalla*'s overhaul amounted to $761,000 or 12.5 percent of material ordered. This unused material was then retained by the shipyard for future overhauls or returned to the supply system.

Question. The Navy often double orders materials (that is, orders through both the Federal supply system and the commercial market). What are the reasons for double ordering?

Answer. Shipyards must locally procure or manufacture alteration material that cannot be provided by the supply system in time to meet installation schedules. In certain instances where the supply system is having difficulty obtaining required material it may be prudent for the shipyard to explore commercial sources. As soon as shipyards know that their procurement efforts may lead to duplication, they have been directed to cancel unnecessary requisitions. Although this sometimes causes duplication of material, it may in some instances be good business practice to trade off a small investment in material to avoid costly schedule impacts.

Question. Does the Navy routinely double order materials to support overhauls?

Answer. No, only where there is doubt that the Federal Supply System can provide material when required are commercial procurements initiated.

Question. How often does the Navy receive material from both the commercial market and the Federal Supply System to satisfy the same material requirement?

Answer. A recent GAO report indicated that Puget Sound Naval Shipyard received $35,000 of duplicate material for the USS *Long Beach* ongoing complex overhaul. However, this is not a large amount in a $150-million overhaul, especially when avoidance of delay and disruption is the critical management objective.

Question. How much material (percent and dollars) do you order from the commercial market during a fiscal year in order to ensure material will be available for the overhaul?

Answer. Requested data is not retrievable without a massive research effort that is significantly beyond the resources that could reasonably be devoted to it. However, if the USS *Long Beach* (CGN-9) is a valid example, with $35,000 of duplicate material in a $150-million overhaul, double ordering in the commercial market does not appear to be a significant problem. This is especially true when you consider additional costs and disruptions associated with nonreceipt or late deliveries of material plus the fact that most duplicate material can be used on other overhaul or returned to the supply system.

INADEQUATE SHIP ALTERATION DEVELOPMENT

Question. Inadequate ship alteration development resulted in 270 ship alteration deferrals (10 percent of all budgeted ship alterations) during fiscal year 1980. However, many of these alterations could have been installed if the Navy had adhered to its own guidelines. For example, according to the GAO, the Navy often does not resolve material and engineering problems until late in the development process, causing many of the breakdowns in the program, causing some alteration to be deferred. In addition, some of the materials needed for alterations are not identified until after the overhaul begins—much too late. When alterations are not adequately defined until late in the development process, the normal alteration development schedule has to be compressed. As a result, important milestones are often missed, alterations have to be deferred, and data for cost estimating is not available.

How does the Navy develop cost estimates for ship alterations that never have been installed before?

Answer. Initial cost estimates for new alterations are made in cost and feasibility studies and alterations scopes which occur prior to Basic Alteration Class Drawings (BACD) development. Upon completion of Basic Alteration Class Drawings (BACD) these initial estimates are refined during pre-overhaul ship checks. The best estimate information comes from return costs, and therefore estimates for first-time alterations are not normally as accurate as those for alterations previously completed.

Question. Basic Alteration Class Drawings (BACD) are due 18 months before ship overhaul begins. How frequently do you use detailed BACD material and labor information when developing ship alteration cost estimates?

Answer. Initial cost estimates for new alterations are made in cost and feasibility studies and alteration scopes which occur prior to BACD development. It should be noted that BACDs specify material requirements but not labor costs. Upon completion of BACDs these initial estimates are refined during pre-overhaul ship checks. However, the best estimate information comes from return costs, and therefore estimates for first-time alterations are not normally as accurate as those for alterations previously completed. It should also be noted that the previous requirement for BACD completion was 12 months prior to start of overhaul, whereas budget formulation must occur 15–27 months prior to overhaul start. In the interest of improving alteration technical documentation BACDs' completion requirement was recently advanced to 18 months.

Question. Why are alteration development responsibilities assigned to planning yards before the technical guidance is provided for "first-time" ship alterations? How often does this occur?

Answer. It is true that in the past some alterations have been assigned to planning yards without adequate or complete technical guidance. These were usually alterations with accelerated installation schedules to meet high-priority threat or readiness requirements. Navy has recognized weakness in this area and in February

1982 initiated a Technical Documentation Improvement Program which should greatly improve the quality and timeliness of alteration design efforts.

Question. Could ship alteration cost increases be held to a minimum if cost estimates were based on BACD labor and material information?

Answer. Ship alteration cost estimates cannot be based on BACDs as BACDs only specify material requirements and not labor costs. Initial cost estimates for new alterations are made in cost and feasibility studies and alteration scopes which occur prior to BACD development. Upon completion of BACD's these initial estimates are refined during pre-overhaul ship checks. The best estimate information comes from return coste, and therefore estimates for first-time alterations are not normally as accurate as those for alterations previously completed. It should be noted that the requirement for BACD completion is 18 months prior to start of overhaul, whereas accurate budget information must be available 15-27 months prior to overhaul start.

Question. GAO recently examined three ships (USS *Tarawa,* USS *Truxton,* USS *Long Beach*) whose BACD's were being developed by the Puget Sound Naval Shipyard and found that Navy was not providing all of the required documents or was providing inadequate documents. The *Tarawa,* for example, did not receive adequate technical guidance for alterations. As a result, nine alterations had to be cancelled.

What happened that delayed receipt of the technical guidance?

Answer. *Tarawa* is the lead ship of her class to enter overhaul, and most of her modernization package consisted of first-time alterations which required development of BACD's. Some alterations were tasked to Puget Sound Naval Shipyard without adequate technical guidance, and guidance on other alterations was changed during the development of BACD's. As a result five of 34 programmed alterations had to be cancelled due to design deficiencies.

Question. In a situation such as this, where money has been appropriated for alterations, what happens to the money?

Answer. Funds for authorized ship alterations that cannot be accomplished are used to fund higher priority emergent requirements. In the case of *Tarawa* the funds were used to support additions to *Tarawa's* original alteration package.

Question. What were the nine alterations that were cancelled?

Answer. A review of *Tarawa's* modernization package indicated that only five alterations were cancelled due to design problems.

1. LHA-1-60K-Aviation Support Aircraft Intermediate Maintenance Department
2. LHA-1-125K-Installs HALON 1301 Fire Fighting Protection
3. LHA-1-147K-Installs Feedwater Demineralizer
4. LHA-1-163K-Modifications to Aircraft Elevator Hydraulic System
5. LHA-1-193K-Modifications Aircraft Elevator Stanchions.

Question. When alterations are cancelled like that, when will *Tawara* receive the alterations, if ever?

Answer. On an annual basis all alterations that are outstanding are prioritized for each class of ship solely on the basis of essentially or critically in meeting the Required Operational Capability

(ROC). Deferred alterations for Tarawa were integrated into the list in priority order and have been programed as follows:

LHA-1-60K—1987.

LHA-1-125K—1984.

LHA-1-147K—1987.

LHA-1-163K—the alteration scope of work has been reduced and incorporated into other SHIPALTS.

ALT: LHA-1-193K—fiscal year 1984.

It should be noted that *Tarawa* is not typical. For example, the USS *Long Beach* undergoing overhaul at Puget Sound Naval Shipyard and the USS *Truxtun* (CGN-35) have a total of 94 alterations scheduled, none of which has been cancelled due to lack of technical guidance.

Question. The GAO reported that 85 percent of the alteration assigned for BACD work does not have technical guidance available when the work is assigned to the planning shipyard. This means that shipyards often cannot develop the BACD's or develop them on time, which also prevents the Navy from using detailed material and labor information when developing ship alteration cost estimates. Why is the technical guidance not available?

Answer. Statement is incorrect in that technical guidance is being provided to planning yards. However, it is recognized that in some cases the guidance provided could be improved. NAVSEA has recently initiated a Technical Documentation Improvement Program which will ensure that adequate technical guidance will be available prior to BACD development. It should be noted that few alterations are deferred due to design deficiencies (1.2 percent in fiscal year 1980).

DEFERRAL OF SHIP ALTERATIONS

Question. Because the Navy has requirements for more alterations than can be done in a given overhaul period, alterations are programmed for each scheduled overhaul on the basis of what can be realistically accomplished, considering industrial personnel skills, fiscal constraints, overhaul length, and material procurement leadtimes. For fiscal year 1974 to fiscal year 1980 one-fourth to one-third of the alterations programmed by the Navy were deferred. In fiscal year 1980 two-thirds of the 780 deferred alterations resulted from Congressional or OSD actions. The remaining 270 deferrals occurred due to inadequate alteration technical development, compensation for added alterations, insufficient material on hand, late plans and drawings, and unanticipated cost increases for other alterations.

What effect does rescheduling have on ships' overhaul schedules? What effect does it have on the overall readiness of the Navy fleet?

Answer. Most alteration rescheduling is caused by changes to ship overhaul schedules. However, most of these deferred overhauls are rescheduled in the near term and the original alteration package restored. In the few exceptions where an overhaul is rescheduled for accomplishment two or three years later, alteration material is normally diverted to another ship for near term accomplishment. In view of alteration rescheduling practices there is minimal impact on ship overhaul schedules and fleet readiness.

Question. The USS *Constellation* was scheduled for a 1981 overhaul but because of the 2-year extension of the USS *Enterprise's* overhaul at Puget Sound Naval Shipyard had to be rescheduled for 1983. What effect does this have on the availability and readiness of both the *Constellation* and *Enterprise*.

Answer. *Constellation's* readiness has not been appreciably affected by the extended period between overhauls. Positive actions were taken to maintain *Constellation's* high state of readiness and included:

Just prior to her October 1980 return from the Western Pacific deployment *Constellation* received approximately 12,000 man-days of repairs to her propulsion systems at SRF Yokosuka.

One month after her October 1980 return to the States *Constellation* was given a 3.3 month SRA at SUPSHIP San Diego. This availability consisted of 63,000 man-days of repairs and 5,000 man-days for modernization at a cost of $17.5M. Work was designed to ensure *Constellation's* readiness and reliability until the fiscal year 1983 overhaul.

Enterprise's overhaul extension delayed her return to the fleet (availability) by 16.8 months. All of her operational commitments were picked up by *Constellation*. *Enterprise* completed post-overhaul sea trials in early February 1982 in a highly successful manner and since returning to the fleet has made outstanding progress in fulfilling her pre-deployment training requirements.

Question. What effect do the battleship conversions have on scheduled overhauls during 1982 and beyond?

Answer. There were eight ships whose overhauls were affected by the decision to reactivate *New Jersey*. The overhaul adjustments were acceptable from both a Fleet operational and maintenance program standpoint. They are summarized as follows:

a. USS *Downes* (FF 1070), USS *Henry B. Wilson* (DDG 7), USS *Oldendorf* (DD 972), USS *Merrill* (DD 976)—reassigned to the private sector for overhaul.

b. USS *Berkeley* (DDG 15)—overhaul commencement delayed 4 months in Long Beach Naval Shipyard.

c. USS *Hewitt* (DD 966)—overhaul duration extended by two and one-half months in Long Beach Naval Shipyard.

d. USS *Ramsey* (FFG 2)—overhaul commencement delayed 9 months in Long Beach Naval Shipyard.

e. USS *Holt* (FF 1074)—the overhaul was increased by two and one-half months in Pearl Harbor Naval Shipyard to accommodate the ASW/TDS modernization that was originally intended for *Downes*.

USS *Iowa* is being solicited in the private sector and has no impact on the overhaul schedule. Funding for the reactivation and modernization for the additional battleships has not yet been approved. The remainder of the five-year plan for the reactivation of these battleships is not expected to have a significant impact on the overhauls scheduled in the five-year plan.

Question. What are the sunk (non-recoverable) costs associated with rescheduling planned and budgeted overhauls? How much does this amount to each year?

Answer. Non-recoverable costs related to rescheduled overhauls are costs associated with non-transferable design and materials.

Since most design efforts and materials are transferable, non-recoverable costs associated with rescheduling are negligible. Although exact figures are not available, it is estimated that non-recoverable costs amount to $5–7 million annually, which is less than 1 percent of the total alternative program.

PLANNED VERSUS ACTUAL DEPOT MAINTENANCE

Question. The Congressional budget developed by the military departments and OSD contains planning data valid at the time the budget exhibits are created. The budget that is executed by the military departments is based on reassessment of operational needs considering the latest program requirements. For example, the budgets executed by the Naval Air Rework Facilities are developed during the current fiscal year and are specifically structured to induct the work considered most important to the fleet type commanders. The GAO was informed by the Naval Air Logistics Center Workload Control Staff that the executed budgets do not come close to matching the specific work detailed in the justifications for the Congressional budget.

How much credibility can the Congress place on the backup exhibits for depot maintenance requirements?

Answer. Data provided in backup exhibits to the budget are the best available at the time the budget is prepared. However, it is a projection made at a point in time in a dynamic environment. Consequently, the more detailed the data, the less accurate specific line items are likely to be over time. The program is reviewed prior to the beginning of the year, and many of the items in the Depot Maintenance Program will be adjusted, some up and some down. However, the distribution of the program by commodity group should not change drastically.

Question. What percentage of the total requirement is actually executed as approved by Congress?

Answer. The Air Force percentage for fiscal year 1981 was 99.3 percent ($2,396.6 million financed versus $2,381.7 million executed). The shortfall in total execution was primarily the result of late contract awards and lack of bit-and-piece support.

In the Army's case 92 percent of what was presented to Congress in fiscal year 1981 by commodity group was executed. The remaining 8 percent was spent for requirements not programmed at the time of the fiscal year 1981 Budget submittal.

The Navy execution for fiscal year 1981 was as follows:

Airframes—87 percent, engines—107 percent, components—109 percent, mod install—86 percent.

The variance resulted from emergent requirements for component and engine repair which threatened to impact near term readiness. Airframe rework and modification installations are deferred since they are less apt to have a negative impact on near term readiness.

NAVY AIRCRAFT REWORK

Question Backlog is defined as the deficit resulting when total maintenance requirements exceed funded maintenance requirements. However, that relationship does not have to reach absolute zero for the Navy to consider its backlog of aircraft work to be at zero. The Navy accepts as a fact that delays in the logistics pipeline, engineering problems and operational commitments will prevent 100 percent operational readiness of airframes, engines, and components.

In calculating its backlog, the Navy excludes a certain percentage of aircraft which are expected to be operationally committed and not available for scheduled depot level maintenance.

What percent of its active aircraft inventory does the Navy plan to have on extension in fiscal year 1983? (Note: GAO estimates 6 percent.)

Answer: The Navy planned to have 6 percent of its active aircraft inventory on extension in fiscal year 1983, given the requirements and funding displayed in the fiscal year 1983 President's Budget. However, execution of fiscal year 1982 indicates that requirements have increased. In addition, funding may be reprogrammed within the aircraft rework program to provide for the installation of additional modifications concurrent with airframe rework.

Question. Although it would seem undesirable to have aircraft operating on extension, a couple of years ago the GAO did a review which showed that there was really very little difference in performance or day-to-day maintenance when comparing aircraft on extension with similar aircraft not on extension. How does the Navy decide that a certain percentage of extensions is acceptable?

Answer. The Navy's goal for aircraft on extension is 6 percent. This goal was established in consideration of the fact that operational commitments have historically precluded induction of approximately 6 percent of the Navy's aircraft for rework on the due date.

Question. Could additional aircraft be placed on extension in fiscal year 1983 without affecting readiness?

Answer. Readiness is also affected by the amount of maintenance effort which must be expended to keep an aircraft operating. Aircraft on extension may require special maintenance or structural inspections which would not be required during a normal operating period. Consequently, the Navy maintains that readiness is potentially degraded whenever aircraft must be placed on extension.

Question. Regardless of your plan to have only 6 percent on extension, GAO estimates you will actually have 9 percent. Is the GAO right?

Answer. Based on additional requirements and assuming a reprograming of funds to provide for additional modification installations, there may be more than 6 percent of airframes on extension.

Question. What do you estimate your extension percentage to be this year, and what was it last year?

Answer. The fiscal year 1982 extension position is expected to be 9.5 percent. The fiscal year 1981 extension position was 6.9 percent.

Question. A bare firewall is a hole in an aircraft where an engine should be. According to the GAO, the Navy's goal is to hold that number to 36 acknowledging the effect of engineering and hardware problems that cannot be solved with additional repair funding. Yet it appears that the Navy will have around 100 bare firewalls at the end of fiscal year 1983 instead of the anticipated 36.

How is it that you will be off by a factor of 3?

Answer. As noted previously, emergent requirements have been identified subsequent to development of the fiscal year 1983 budget, and funds may be reprogramed to provide for additional modification installations. These actions may result in a backlog in engine rework. As a result the number of bare firewalls may be higher than 36.

Question. How many bare firewalls did you have at the end of last year, and how many do you project at the end of this year?

Answer. We had 43 bare firewalls at the end of fiscal year 1981 and expect to have 66 bare firewalls at the end of fiscal year 1982.

Question. The Navy's engine backlog has been cut to about 780 based on OSD's direction that Navy only report a backlog of front line and carrier operational aircraft. If all operational aircraft are included, the engine backlog come close to 1,450. What is the reason for not including all operational aircraft to determine the backlog?

Answer. There are between 700 and 800 engines currently identified as necessary for Navy operation which are not funded for repair. This unfunded requirement consists of many frontline engines and carrier operating engines because they comprise the bulk of the requirement. But also included in those 780 engines are units of every type, model and series in the inventory. The requirement is based upon the need to support all types of aircraft in every Navy mission. The unfunded portion of that requirement in a fiscal year is that year's backlog.

There are a total of approximately 1460 engines in need of repair in Navy custody. All of these are not required for readiness in the near term and therefore are not identified as a requirement. Identification of all potential repairs is necessary at any time because we may have to repair these engines should we proceed to a combat status or experience a significant increase in operating tempo and/or engine failure rates.

Question. If fiscal year 1983 funds are provided as requested, the Navy has testified it will meet its aircraft readiness goals, and DOD has projected a zero dollar value for backlogged aircraft rework. Based on information provided to the Navy by the staff of the Naval Air Logistics Center, it is highly unlikely that either condition will result. Based on these numbers, it appears that the Navy's aircraft backlog will be on the order of $294 million, not zero as the budget states. How do you reconcile this discrepancy?

Answer. As the Navy has previously testified, additional modification installations and emergent fiscal year 1983 requirements may result in a backlog in the fiscal year 1983 Aircraft Rework Program. This results from identification of emergent requirements subsequent to development of the budget. These emergent requirements have not yet been subjected to a thorough analysis and review. When these requirements are validated, the actual backlog may vary.

Question. Based on the Navy's projected $294 million backlog at the end of fiscal year 1983, what criteria did OSD use to project a zero backlog for aircraft rework at the end of the fiscal year?

Answer. The $294 million consists of three distinct pieces. One piece, $106 million, is associated with new emergent requirements identified subsequent to the OSD review. These requirements are still under analysis and review within the Navy and, therefore, have not yet been submitted to OSD. Another piece, $102 million, is related to modification installation efforts. These efforts are not considered to be a part of the depot maintenance backlog. The remaining piece, $86 million, is related to various Navy projections of requirements and prices in the budget time frame. OSD's analysis formulation of these projections led them to conclude that the projections were overstated. Navy disagrees. If validated by the Navy, these requirements will be resubmitted to OSD for reconsideration.

Question. The Navy is considering reallocating $49 million from airframes and engines to alleviate the present $107 million problem in component availability. If the reallocation takes place, the already serious component availability problem (62.7 percent as of February 1982) will be somewhat relieved, but won't the engine and airframe backlogs be increased?

Answer. The Navy has reallocated $44 million to alleviate a serious deficiency in component rework funding. The primary impact of this reallocation is deferral of standard depot level maintenance on 90 aircraft, which will increase aircraft on extension in fiscal year 1983 but will not significantly impact bare firewalls.

Question. Logistics pipelines do not always provide the right part at the repair point at the proper time; for that reason the Navy expects 15 percent of its supply materials will not be available when needed. Because of the expected shortfall the Service's goal is to have 85 percent of its component inventory ready for installation at all times.

What was the Navy's experience in fiscal year 1981, and so far this year?

Answer. The supply material availability (SMA) for fiscal year 1981 was 66.2 percent for depot level repairables. The SMA for fiscal year 1982 (Oct through Apr) is 63.3 percent for depot level repairables.

Question. Is your zero backlog budget dependent upon any planned improvement in the availability of material in fiscal year 1983?

Answer. The zero backlog displayed in the budget was based on a requirement of $842 million, which was fully funded. However, emergent requirements may create a component rework backlog which would lower SMA.

SUPERVISOR OF SHIPBUILDING, CONVERSION, AND REPAIR NEW ORLEANS, LA.

Question. The mission of the Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP), New Orleans, is to administer Navy Department and other Department of Defense shipbuilding, design, conversion, and facility contracts at assigned private shipyards; procure and administer overhauls, repairs, alterations, activations, and inactivations performed on naval ships at private yards under Naval Sea Systems Command master contract for repair and alteration of vessels; and allocate unscheduled overhauls between government and private ship repair yards. The Naval Audit Service recently reviewed this activity and cited specific deficiencies in staffing, travel funding, and contractor estimating systems (Naval Audit Service report A41351, of October 9, 1981, entitled "Supervisor of Shipbuilding, Conversion and Repair, USN, New Orleans, La.)

Changes required to contracts administered by SUPSHIP New Orleans are submitted to the contractor for a price proposal. Upon receipt of the contractor's proposals SUPSHIP New Orleans forms a technical analysis of the proposal and negotiates a price based on that analysis.

According to the Naval Audit Service about $28 million in changes have been priced in this manner since 1976 under procurement contracts with SUPSHIP New Orleans' major contractor. Who is the major contractor for this SUPSHIP's office?

Answer. Avondale Shipyards, Inc., New Orleans, La.

Question. In each case where the Defense Contract Audit Agency (DCAA) has performed an audit of the proposal, they have concluded that the contractor proposal was not acceptable as a basis for negotiation of a price because a large portion of the contractor's cost remains unresolved or questionable at the conclusion of the DCAA investigation. If DCAA concluded that the proposal was not acceptable, why was it used as a negotiation for the price?

Answer. It should be noted that the SUPSHIP Contracting Officer determines the acceptability of contractor proposals, not DCAA. In the referenced cases DCAA's conclusions for unacceptability were based primarily on their inability to audit the contractor's proposal for delay and disruption. SUPSHIP New Orleans has a method for accommodating delay and disruption costs and was able to use the contractor's proposal as a basis for negotiating price.

Question. DCAA last reviewed the contractor's estimating system in 1969. At that time the contractor's procedures were determined to be inadequate and the system incapable of producing valid support for cost proposals. DCAA has attempted to perform reviews since that time but has not been permitted by the contract to make such a review. SUPSHIP New Orleans requested in 1977 that the Naval Sea Systems Command include in a follow-on contract to this contractor a clause that would require a formal change order estimating system. However, NAVSEA refused to do so. Since the contractor was apparently not cooperating with the Navy, why did NAVSEA refuse to include what appears to have been a reasonable clause in the contract?

Answer. It is not so much the question of refusing to put this clause in the contract but, rather, the question as to whether the cost of adding the clause would be worth the benefit.

Question. According to the audit report, DCAA has scheduled a review of the contractor's estimating system for fiscal year 1982. Until such a review is completed, the validity of the contractor's price proposals will remain suspect. Has such a review taken place and if not, why?

Answer. It is our information that DCAA has decided either not to conduct the review or to postpone it due to the declining workload at Avondale. There has been no new work with Avondale since the October 9, 1981, audits.

MSC SHIP REPAIR WORK IN FOREIGN PORTS

Question. It is currently the policy of MSC to perform in foreign ports only those ship repairs necessary to ensure the safety and seaworthiness of MSC nucleus ships. The Naval Audit Service (report No. A20611 of November 4, 1981) has recently recommended that it may be logistically as well as economically advantageous to accomplish other repairs in foreign ports to ships deployed in an area for extended periods instead of delaying the work until the ship returns to the United States.

MSC agreed to review the existing policy on ship repairs in foreign ports and to provide a report by November 30, 1981. Has this report been completed?

Answer. Yes.

Question. What were the findings of MSC on this issue?

Answer. The review of existing policy on ship repairs in foreign ports has been completed for work performed in the European area. Due to lack of specified material in the Mediterranean area (that is, Coast Guard certified equipment, ABS approved equipment and MILSPEC products), it has been determined that only emergency repairs, voyage repairs, and mid-period inspections will be done in the Mediterranean area. Overhauls will be accomplished in the continental United States.

In the Pacific area, where many MSC Naval Fleet Auxiliary Force (NFAF) ships are permanently deployed, it is operationally and economically advantageous to accomplish all repairs to these ships in foreign ports. The Ship Repair Facility (SRF) Subic Bay, Philippines, by written agreement has first refusal on repairs to these ships. The policy concerning repairs to other type MSC ships operating in the Pacific is similar to that policy for the European area.

Question. Are there implications beyond MSC in terms of reworking and repairing combatants in higher volumes in foreign ports?

Answer. Deployed U.S. Navy ships accomplish maintenance during routine unkeep periods using own ship's force. Planned external maintenance support is accomplished at the intermediate maintenance level using deployed tenders. Depot level maintenance for emergent or voyage repairs is provided on a case basis by foreign ship repair facilities. In the Western Pacific the U.S. Naval Ship Repair Facilities (SRF's) accomplish depot level maintenance during periods when Fleet units are assigned routine upkeep periods. Planned depot maintenance periods (regular overhaul, selected restricted availabilities, etc.) are not conducted while ships are deployed; rather, they are conducted during stateside periods. There are no current plans to change or alter this maintenance philosophy.

PHILADELPHIA NAVAL SHIPYARD

Question. The Committee has received copies of four different Naval Audit Service reports (C22620, C22651, C22650, C22640), all published within the last year, which are critical of the management of the Philadelphia Naval Shipyard.

Delays in processing Navy Industrial Fund Reimbursement vouchers (Standard Form 1080) prevented the Philadelphia shipyard from promptly obtaining progress payments for billable costs incurred. According to the auditors, the uncollected vouchers totalled $10.3 million. Under pertinent Navy regulations there should be no uncollected progress bills at the end of the month because collections should be processed in the same month as the billing. According to the auditors, financial records of the shipyard indicate that this is a recurring problem.

To the extent that progress payments are not promptly billed, would the total obligation authority available to the Navy Industrial Fund be reduced by the amount of the underbilling?

Answer. The total obligation authority available to the NIF would not be affected by the conditions of (1) not preparing a bill in the same month that billable costs were incurred or (2) not receiving a collection in the same month that a bill was rendered. The total obligation authority available to NIF is represented by the value of accepted customer reimbursable orders. These amounts are fixed and do not increase or decrease based on billings and collections or the lack thereof.

Question. To the extent that such underbilling occurs and does have a negative impact on the industrial fund, is it reasonable to conclude that Naval Industrial Fund rates are higher than normally would be required to make up the deficit in the obligation authority available to the industrial fund?

Answer. As indicated above, there is no negative impact upon NIF total obligation authority. The only impact is upon the NIF cash position. In no event would the billing and/or collection process have any effect upon NIF rates.

Question. To the extent that the shipyard does not collect progress payments from a customer, does this mean that the customer would simply have an obligation which would not show as an expenditure, or would the customer in fact not even show an obligation on his books?

Answer. Delay in processing billings and/or collections would result in a corresponding delay in the customer receipt of an expenditure. This delay does not affect the obligation reflected on customer records.

Question. The auditors also discovered that about $1.84 million in accounts receivable over 90 days old were not pursued properly according to the Navy's own collection procedures. The vast majority of this amount, $1.7 million, was in a category called "credit pending-government".

What is this "credit pending-government" account?

Answer. The "credit pending-government" account reflects amounts due from other government sources such as credits expected due to overcharging, duplicate or erroneous chargings, etc., on billings for Defense Supply Administration (DSA), General Supply Administration (GSA), and Stock Fund material. It also includes the estimated value of NIF-generated scrap turned over to a property disposal office for sale.

Question. The audit states that the shipyard has the authority to write these items off if credit is denied. What does this mean?

Answer. Amounts in this account are credits expected from other government agencies or transactions in dispute or credits for returned inventory and scrap items where the amounts are determined by the other government agencies. The shipyard writes off differences between expected credit and actual credit allowed as an operating expense and it is reflected as a NIF cost. It is no loss to the government as a whole, since the receiving activity has the excessed items for resale or the amount was in error originally.

Question. Has this $1.7 million been written off?

Answer. The Credit Pending—Government Account as of 31 May 1982 contains none of the items reported in the $1.7 million balance. Disposition of the $1.7 million was either through write-off, receipt of credit from the billing agency (DSA, GSA, NSA) for excess material returned or erroneous billings, or receipt of proceeds from sale of NIF scrap.

Question. The shipyard had not performed a comprehensive review of accounts payable for over 5 years prior to the date the audit was published. As a result, payables valued at $3.5 million were in excess of 90 days old. Of this total $1.5 million in payables were classified as dormant and according to the auditors to be considered for write-off.

Why did the shipyard not agree to perform the recommended reviews of accounts payable?

Answer. The shipyard objection to perform the recommended reviews of Accounts Payable was based upon Naval Audit Service's desire for a comprehensive review on a monthly basis similar to the one performed by the Internal Review Divison. Such reviews require extensive/time consuming manual research for which manpower may not be available. Subsequently, NAVSEA/NAS agreed that these reviews do not have to be performed on a fixed monthly basis but should be performed as expeditiously as possible which will provide for the development of a systematic method of reviewing aged outstanding accounts payable. For the past three months the shipyard has been performing such reviews including a 100 percent review of all contractual documents prior to the 90-day period to ensure the validity of the accounts payable-commercial records.

Question. Please provide some typical examples of the items included on the delinquent accounts payable.

Answer. Delayed billings by vendors and Government agencies, backlog by Naval Finance Centers in processing payments to vendors, liquidation of travel advances, criteria for stringent matching of bills and receipts in the MIS–AP ADP application.

Question. The Naval Audit Service reports that the shipyard is accruing costs for major nonrecurring maintenance projects in one fiscal year even though the performance of work and the costs are actually incurred in subsequent fiscal years. As a result, at the time of the audit report shipyard financial and operating statements reported about $18.6 million in unliquidated accruals with about $9.8 million applying to projects where costs were fully accrued during prior fiscal years.

To the extent that the shipyard projects a cost accrual which in fact will not occur until a subsequent fiscal year, the shipyard requirement for resources is overstated in that first fiscal year. If this is occurring across all shipyards, could the overstated requirement in any given fiscal year approach $100 million?

Answer. Current fiscal year 1982 Navy accrual policy and guidance is in consonance with 10 U.S.C. Code 2208, which states that generally accepted commercial practices will be used to distribute cost. Upon notification of project(s) approval accruals are recorded over an ensuing 12-month period. In the event work does not commence within the 12-month period, the accruals should be reversed. Commencing in fiscal year 1983, major maintenance and repair costs will be accrued on the basis of costs incurred. Accordingly, this change in policy was reflected in the fiscal year 1983 President's budget. Performance of work and accrual of costs will coincide. It is not considered likely that the value of unliquidated accruals applicable to projects fully accrued during prior fiscal years would approach $100 million.

NORFOLK NAVAL SHIPYARD CONTRACT ADMINISTRATION

Question. Last summer the Naval Audit Service reviewed contract administration performance and practices for maintenance service contracts within the Norfolk Naval Shipyard. The auditors found that improved surveillance of contractor performance was required, certain contract terms were not enforced, and when questionable contractor practices and contractual weaknesses were observed, action was not always promptly taken to correct the conditions noted.

In one contract a firm was allowed a 47 percent mark-up on material rather than being allowed only a 5 to 10 percent handling charge. Another contract was basically a time and materials contract with an hourly rate for service work which provided for no limit on the number of hours that could be charged. Does the Navy provide any sort of training at its shipyards to prevent what would seemingly be rather obvious deficiencies in these contracts?

Answer. When Navy Audit submitted its final report in May, 1981, it indicated a 47 percent mark-up had been assessed to the Navy. It was determined, however, that this mark-up was not being fraudulently assessed by the contractor but was applied as his routine mark-up for conducting business. At this time the contract was due to expire within a month, and action was quickly taken by the shipyard to prevent a recurrence of this in forthcoming contracts. Prior to the scheduled bid opening of the new contract in June, the specifications were amended to specifically address material handling charges as a specific item in the schedule of prices, tying it directly to the contractor's bid price. This would ensure maximum competition and fairness to the Government.

The use of time and material contracts for maintenance services is a typical contract from within the Navy. It has only been since 1979 that the Navy has addressed the use of specific contract forms for maintenance service contracts, in particular the use of performance specifications. Time and material contracts have the greatest potential for excessive cost and require close surveillance to ensure the contractor is performing efficiently. As a result of the Navy Audit and lessons learned, the shipyard took immediate action to eliminate its time and material contracts.

Naval Facilities Engineering Command Civil Engineering Corps Officer School (CECOS) and Engineering Field Divisions are the primary sources of training within the Navy. In 1979 CECOS developed the Maintenance Service Contract Course to help train local activity personnel. CECOS also provides other courses with applications to maintenance service contracting. In addition, NAVFAC field divisions offer formal training primarily for contract inspectors. Various DoD and Government Agencies also have courses available as well as private industry and institutions.

Question. The Norfolk Naval Shipyard also has a substantial problem with inadequate surveillance of contractor performance. For example, one contractor performed and was presumably paid for 23 preventive maintenance inspections on an item which had been inoperable for about 2 years. The same contract required a response time of only one hour from the contractor. However, 76 percent of the calls required more than one day for the contractor to respond, and 13 percent required more than 10 days. When the Navy finds continuing problems with one contractor because of a combination of a poorly written contract and inadequate performance, is vigorous action taken to recoup any overpayments that have been made as well as terminate the contract?

Answer. Inadequate surveillance of contractor performance was not a factor in which 23 preventive maintenance inspections were done on an air conditioning unit which was inoperable for about 2 years. Specifically, the air conditioning unit on which the work was performed is a standby unit used to maintain temperatures in the Electronics Shop 67 and Electric Shop 51. These shops provide repair support for shipboard electronic systems such as radar, fire control computers, electronic warfare equipment, etc. In addition, the associated test, calibration and fault isolation equipment is located within this facility. All these systems are extremely temperature and humidity sensitive. The only major component not operational on the total A/C unit was the cooling tower. A project was needed to make repairs to the cooling tower; however, temporary cooling water lines could have been quickly connected to the other operational cooling tower to make the stand-by unit operational in an emergency. The maintenance was conducted to ensure the stand-by unit would be operational should it be required. It should also be noted that the frequencies of maintenance have been revised in the subsequent contract to preclude unnecessary maintenance inspections.

Response times written into the contract specification were not always met by the contractor. The one-hour response time required of the contractor was applied as a guideline for responsiveness. The requirement was not enforced by the Navy since typically it was not necessary for the contractor to respond this quickly. The new contract awarded the month of June 1981 allows the contractor a two-hour response time. In this regard he has satisfactorily met the shipyard's needs. In addition, the previous contract being a time and material form allowed the cost per service call to vary. The present fixed price contract establishes a fixed rate per service call.

If a contract is inadequately written and/or a contractor is substandard in performance, several options are available to the Navy. These actions are vigorously pursued. These options include but are not limited to:

a. Complete re-writing of the contract specifications.

b. Not exercising annual renewal options allowed in the contract (essentially termination).

c. Increasing inspection/surveillance pressure.

d. Involving the Small Business Administration, if appropriate.

e. Withholding contract payments.

f. Reducing or eliminating contract scope through deductive change order.

g. Assessment of liquidated damages.

h. Termination for convenience of the government. Contract termination for default would almost never be pursued as a remedy to a contract problem since several of the above listed techniques can achieve the same result at far less potential financial risk to the government. The shipyard is prepared to use any of the above techniques it deems necessary and has employed some of them to stop contracts and recoup funds.

Question. To what extent have contractors been blacklisted at any of the shipyards for inadequate performance?

Answer. The practice of blacklisting contractors is not done either formally or informally by the Navy. Disbarment of a contractor is the most severe action that can be taken. This normally is resolved outside the Navy, resting usually at the Department of Labor or within the courts. Typically, disbarment occurs as a result of labor violations or criminal acts such as fraud.

At the local level the Navy attempts to eliminate poor contractors through the administrative remedies of pre-award survey, reduction of work scope, assessment of liquidated damages, and refusal to exercise annual renewal options.

INADEQUATE TRAVEL RECOUPMENT PROCEDURES

Question. According to the many Naval audit service reports available to the Committee, the Naval shipyards apparently do not pursue reconciliation of outstanding travel advances. For example, at the Philadelphia Naval Shipyard, the Portsmouth Naval Shipyard, and the Mare Island Naval Shipyard the auditors report such occurrences as travel claims not being received, average turn-in time for travel claims of 55 days, and in one instance over $300,000 in travel advances with some over 180 days old, no reconciliation performed, and so forth.

In previous years when Congress has made a reduction in DOD travel funds, the military services, including the Navy, have appealed strenuously that such cuts would necessarily directly affect readiness. Why would the Navy choose to take travel reductions out of readiness programs when your own auditors daily document the mismanagement of travel funds is occurring at the shipyards?

Answer. The Navy's statement that reduction in travel funds would directly affect readiness is related to the fact that if travel funds are reduced, direct travel related to the performance of the activity's mission in support of fleet readiness would have to be reduced. The purported mismanagement of travel funds would have no relationship to the requirement to reduce direct travel if travel reductions are mandated.

It is considered that the referenced audit reports are subject to misinterpretation. Outstanding travel advances do not necessarily represent amounts owed to the government. On a case-by-case basis the travel advance may be insufficient to cover costs reimbursable to the traveler. In these cases the traveler must pay the difference.

The audit reports do not make a distinction as to the amounts owed to the government or to the traveler. They only point out that travel claims are not being filed expeditiously. In this regard it is considered that the problem is one of inadequate follow-up and reconciliation rather than actual mismanagement of funds. It is also considered that monies actually owed to the government are minuscule when compared to overall outstanding travel advances and especially when compared to the total travel budget.

As indicated in the audit reports, the shipyards are taking corrective action to improve travel advance administration. In addition, NAVSEA is monitoring such corrective actions to ensure positive results.

Question. What do you estimate the impact would be if the Committee included a general provision in the fiscal year 1983 bill requiring a payroll deduction for any outstanding travel advance not submitted on a claim within 30 days of completion of the travel?

Answer. It should be noted that Joint Travel Regulations and Comptroller of the Navy regulations currently provide for payroll deductions for any outstanding Temporary Additional Duty (TAD) and military Permanent Change of Station (PCS) travel advance not submitted within 15 calendar days following completion of travel except when extenuating circumstances such as hospitalization, further travel, etc., prevent submission of this claim. This allows the cognizant command to direct action when and where needed.

It must also be noted that legislation governing travel advances, in certain situations such as civilian personnel PCS moves, does permit the individual periods of up to one year prior to filing to allow for computation of all items for which legal entitlement exists. Navy has taken, and will continue to take, aggressive action to improve travel administration. Increased programmatic monitoring has been implemented and revised Navy directives to commands have been issued to ensure compliance.

SHIPYARD LABOR ACCELERATION RATE

Question. At Naval shipyards the cost of civilian salaries billed to customers are increased by an estimated predetermined percentage to recover the expense of employee labor benefits such as leave, retirement, and health benefits. This percentage "acceleration" should exactly equal the actual cost of the benefits so that the customers to the shipyards will be neither overbilled nor underbilled for the labor costs.

According to various Naval audit service reports addressing Naval shipyards, the acceleration rate is developed about 18 months prior to the start of the fiscal year in which it is used. Wouldn't this make the acceleration rate not entirely accurate because of changing conditions over that time period?

Answer. Acceleration rates for leave, retirement and health benefits, similar to most other budget estimates, are developed months prior to the start of the fiscal year. Shipyards develop the acceleration rate based on past experience and certain projections such as additional holidays and allowing for changes in health benefits and FICA rates. These acceleration rates are subject to reviews by NAVSEA, NAVCOMPT and OSD during the budget process. They are changed to reflect the best projection of the estimated accelerated rate at that time. It is recognized that changing conditions such as increased accrual or sick leave during the fiscal year will result in actual acceleration rates which vary from estimated rates. However, under the Department's stabilized rate policy it is not intended that rates charged to customers of the Industrial Fund exactly mirror the actual costs incurred by the Industrial Fund during a particular fiscal period. Only a cost-reimbursable method of billing could achieve that goal.

Question. 18 months before the start of the fiscal year Naval shipyard rates are established, including the acceleration rate, and in addition the customer accounts are told to fund at a certain level in order to pay these rates as ships go in for overhauls and other kinds of work. To the extent that these rates change, including the acceleration rate, isn't it true that customer accounts will either end up with a deficit or an excess in funding since they have basically budgeted at a fixed rate?

Answer. The acceleration rate factor is part of the stabilized man-day rate charged to customers, such as ship overhauls. Once the man-day stabilized rates are developed and approved, they are not changed. Since customers budget for workload based on these approved stabilized man-day rates, variances between projected and actual acceleration rates do not affect billings to customers. Such variances are absorbed by the Industrial Fund.

Question. Based on the audit report, it appears that the shipyards at the beginning of the fiscal years charge the established acceleration rate but by the fourth quarter have generated such a substantial profit that the acceleration rate is dropped significantly. This has occurred consistently over the last several years and consistently throughout the naval shipyards. As a result, it would appear that the customer accounts would be generating excess funding every year in millions. Is this correct?

Answer. In accordance with NAVCOMPT and DoD Directives, shipyards are required to conduct a periodic review of the labor acceleration rate to ensure that the accrual rates are in line with experience data in order to eliminate significant over/under accrual adjustments at the end of a fiscal year. As indicated previously, customers are charged a stabilized man-day rate. Variances in the acceleration rate during the fiscal year have no effect on what the customer is billed. If actual costs are over or under the stabilized man-day rates, such variances as well as the recoupment of related losses on the return of related gains are consistent when developing subsequent budget rates.

A review of adjustments made ending fiscal year 1981 shows that three naval shipyards made substantial adjustments which are not considered in the acceptable range. NAVSEA will monitor fiscal year 1982 acceleration rates to ensure that accrual rates are in line with experience data in order to eliminate significant over or under accrual adjustments at the end of fiscal year 1982.

MASTER SHIP REPAIR CONTRACT GROWTH

Question. Prior to making a ship available for overhaul or repair, the ship's force is responsible for developing a work package for inclusion in the basic contract award. In a Naval Audit Service report published last November, it was found that "more emphasis should be placed on adequate planning prior to ships availability for repair and overhaul in order to reduce the amount of growth work that emerges subsequent to contract award." The basis of the criticism was that work was being performed that was not required, and the growth work that was required was therefore being awarded non-competitively since it was not identified prior to contract award.

The ship repair contracting manual provides that the only supplementary work that can be requested after the start of an overhaul or repair availability is work necessary for the vessel to operate. In addition, the Navy has been criticized for years by this Committee, the audit services, as well as the General Accounting Office for what appears to be inadequate attention to the growth of overhaul costs during the overhaul itself. In response the Navy has established the Fleet Overhaul Improvement Program. Specifically what is this program designed to do and what have been the results to date?

Answer. The name of this program has been changed to the Depot Operations Improvement Program (DOIP). DOIP is under the direct leadership of Vice Admiral Fowler, Commander, Naval Sea Systems Command, and was established to coordinate and evaluate the effectiveness of initiatives being taken to improve quality of shipboard work to ensure reliable operation over the next operating cycle. Specific objectives are to complete all ship maintenance by the scheduled completion date and within the cost estimate established prior to overhaul commencement and, in the private sector, to reduce the growth of the final contract cost over the original contract price. Improvement toward these objectives over the period from fiscal year 1979 through March 1982 on ships overhauled under Master Ship Repair contracts are as follows:

	Fiscal year 1979	March 1982
Average lateness to orginal schedule (days)	65	14
Average growth over original Government estimate (percent)	21	4
Average growth of original contract (percent)	68	47

Question. In comparison with some of the other services the Navy has been slow to implement the reliability centered maintenance program whereby only the work necessary to be accomplished during the overhaul is actually identified and performed. What progress are you making in implementing reliability centered maintenance in the multi-billion dollar ship overhaul program?

Answer. Reliability centered maintenance was applied as a pilot program during the planning phase of two ships currently being overhauled. It is being selectively applied to additional ships currently in the planning phase. Instrumentation is being developed and special teams are being established to accomplish diagnostic type analysis in areas such as machinery vibration analysis and infrared photography. Full scale application is not expected until an evaluation is completed on the two ships currently undergoing overhaul.

Question. The fleet overhaul improvement program included a limit of 20 percent for growth and new work for overhauls. Is that limit still in effect and to what extent has it adversely impacted on the overhaul program.

Answer. No specific limit has been established for growth and new work on individual overhauls, although the Navy has recently established a goal to reduce growth and new work to 10 percent. The 10 percent goal is not intended in any way to be used to limit or affect any decision to accomplish necessary work during the overhaul.

Question. How was the 20 percent figure developed and to what extent could it be reduced to say 15 percent or even 10 percent?

Answer. No specific limit has been established for growth and new work on individual overhauls, although the Navy recently established a goal to reduce growth and new work to 10 percent. The facts that surround each overhaul are different. During the course of planning the overhaul improved practices and procedures used to define the work are expected to result in a work package at the start of the overhaul which is 90 percent complete. The current goal under ideal conditions would be to have only 10 percent growth in the work package. Planning towards a 100 percent work package is not practical because of the number of inaccessible components, limited opportunity to conduct inspection and the need for early planning. Under the Depot Operations Improvement Program efforts have been made to reduce growth through refinements in the work definition process and the methods used to award contracts in the private sector.

Question. Perhaps the critical element in accurately defining the work package results from the input to the ship's company itself. Since this input has been much less than adequate historically, what steps have the ship commanders taken to improve this weak link in the definition of the work package?

Answer. A training program has been developed to provide the ship's company involved in planning for an overhaul a better understanding of the process and its responsibilities in defining the required work. Increased emphasis has been directed at increasing the responsibility of the Planning Engineering Repair Alteration (PERA) activities to assist the ship's company in work definition. This will enable the ship's company to make more meaningful recommendations to the Type Commanders regarding the most economical work package to ensure the ship operates reliably following overhaul. The PERA activities maintain a corporate knowledge of specific types of ships and provide significant advice and assistance to the ship's force as the work package is developed.

Question. The board of senior officers was established to monitor the overhaul of the U.S.S. *Spiegel Grove* (LSD 32). The stated purpose of this board was to identify additional areas where improvements in the process could be made. What have been the findings of this board?

Answer. A fleet working group was established to review the planning and execution phase of the ship overhaul process. The U.S. *Spiegel Grove* (LSD 32) was selected at random as the test ship for the review. The overall conclusion was that the overhaul planning policy, organizational structure and overhaul procedures were satisfactory; however, there were areas in which the Navy can improve the ship overhaul program by strengthening the discipline in overhaul execution. A considerable amount of effort is being applied to improve overhaul execution. A Depot Operations Improvement Program (DOIP) was initiated by the Commander, Naval Sea Systems Command to help improve the quality and timeliness of depot maintenance through increased management attention by Ship Logistic Managers, Shipyard Commanders and Supervisors of Shipbuiding. Improvements have already been achieved, particularly in the area of schedule adherence, work growth and award interval. Some specific areas in which the Navy is taking action to improve depot maintenance executability are:

a. Improving contracting procedures, innovating new contracting methods, and extending the use of multi-ship/multi-year contracts will help improve the timeliness, quality and cost-effective performance of ship overhauls in the private sector.

b. For select ship classes the Navy is pursuing the port engineer concept that is currently used in the commercial shipping companies. The port engineers will act as a central point of contact for all commands to help improve the management and execution of overhauls.

c. The Navy is expanding the use of diagnostic equipment in the pre-overhaul test and inspection of ship systems and equipments in order to provide more assurance that the work requested is in fact necessary to sustain the ship throughout the ensuing operating cycle.

Question. Fiscal year 1982 has been identified as a year which should see positive results of the fleet overhaul improvement program. If this program has indeed produced new insights into the ship overhaul and repair program, which changes would you recommend the Committee make to reflect these approved procedures in the fiscal year 1983 budget before us?

Answer. The fiscal year 1983 budget contains requests for the necessary ceilings in Navy shipyards and the Supervisor of Shipbuilding offices to carry out the increase in nuclear work in naval shipyards and more complex ships in the private sector. Support of these ceilings is required if this work is to be properly defined, managed and accomplished. Also support is requested of the ongoing naval shipyard modernization program and efforts to provide incentives to the private sector to be able to effectively manage the more complex overhauls.

NAVAL SHIP SYSTEMS ENGINEERING STATION

Question. The Naval Ship Systems Engineering Station at Philadelphia is responsible for providing life-cycle engineering and logistics support for in-service equipment during its operational life.

This effort requires monitoring ships systems and providing early support that can minimize the occurrence of ship class problems. This approach prevents deterioration of major ship systems to inoperability and significantly increases the operational readiness of the Navy.

According to a recent Naval Audit Service report, the Naval Ships Systems Engineering Station (NAVSSES) has been prevented from performing early engineering studies of systems in which potentially disabling problems have been identified. According to the report, the receipt of about $7.3 million needed for fixed operating costs and production support was not provided; this has prevented full operation and implementation of life-cycle management of H.M. & E. ship systems.

Does the Navy agree that the absence of an integrated life-cycle management program could result in costly "fix-it" programs rather than preventing deterioration beforehand to the extent it can be anticipated?

Answer. Yes. The Naval Sea Systems Command is committed to an Integrated Life Cycle concept for ship systems. This concept encompasses engineering responsibility throughout all phases of the life cycle from initial development to acquisition and operational support. In-Service Engineering (ISE) and Test and Evaluation (T. & E.) are principal elements within the life-cycle management concept. NAVSSES is the designated ISE agent and T&E facility for ship systems and equipment. The primary function of the ISE agent is identifying deficiencies occurring during the in-service or operational phase of the life cycle. T. & E. is an essential element of the life cycle because thorough testing and evaluation of new or reengineered systems and equipment are mandatory prior to operational commitment. ISE engineering analysis and thorough testing and evaluation of ship systems and equipment are essential elements in maintaining fleet material readiness. NAVSSES is actively pursuing the development of ISE and T. & E. capabilities that will allow full implementation of these phases of life-cycle engineering management.

Question. Given the enormous expenses involved in ship maintenance overhaul, will the $7.3 million needed at NAVSSES Pay for itself in reducing long-term costs?

Answer. The $7.3 million may reduce some long-term costs. Requirements are identified in the budget formulation process by the program managers for the specific equipments and services requested. The program manager and resource sponsors then make trade-offs as necessary to achieve the most cost-effective utilization of funds based on fleet requirements.

While the in-service engineering role for NAVSSES has increased substanitally in fiscal year 1982 and fiscal year 1983, allocation of an additional $7.3 million is not feasible nor desirable within current and anticipated NAVSEA funding limitations.

Question. According to the Audit Report, management changes are being effected which will permit broader assignment of efforts concurrent with fiscal year 1982 and fiscal year 1983 funding increases. What has been the funding level for the organization for fiscal year 1981 through fiscal year 1983?

Answer. NAVSSES has effected extensive internal changes in management structure to totally assume the ISE responsibilities and handling of anticipated increased funding. Funding at NAVSSES has been increased significantly in fiscal year 1982 with projected increases in fiscal year 1983. NAVSSES funding in requested fiscal years is as follows:

[In millions of dollars]

	Fiscal year		
	1981	1982	1983
Total (all appropriations: OPN, SCN, R.D.T. & E. and O. & M.N.)	[1] 68.0	[2] 85.0	[2] 100.0
Of the total, the following is NAVSEA O. & M.N:			
NAVSEA O. & M.N	[1] 22.2	[3] 22.3	
NAVSEA O. & M.N. (Total anticipated)		[2] 32.4	[2] 38.2

[1] Actual.

[2] Planned.

[3] May 1982, actual.

Question. The audit also quotes the Naval Sea Systems Command as stating "it is not planned, however, to sponsor a discrete budget line to support in-service engineering." Why?

Answer. The Naval Ship Systems Engineering Station, Philadelphia, Pennsylvania, is a Modified Industrial Fund (MIF) activity which receives funding from many program budgets. In-service engineering funding is provided to NAVSSES primarily from the following NAVSEA line items as well as from Ship Logistic Managers: Ship Systems Engineering, Marine Gas Turbines, Steam Propulsion Plant Improvement Program, Underway Replenishment, Shipboard Equipment Testing and Inspection Program, etc. Transferring this funding to an individual line item would result in the inability to identity requirements to specific systems and warfare areas. This reduction in the visibility and accountability for specific programs and equipments would be detrimental to NAVSEA program managers' life-cycle responsibility. The current methods appear to be the most efficient and effective procedures to manage limited resources.

Question. According to the auditors, NAVSSES had about 535 lots of items in storage that had accumulated over 25 years from completed or canceled projects. 28 of these lots had been in storage for over 25 years with no evidence found to indicate that any effort had been made to report these items as idle or excess.

What is the present disposition of these 535 lots?

Answer. Ninety-two (92) justified lots were determined to have a legitimate use and remain in storage. The remaining 443 lots were either declared to have no further useful purpose and disposed of or were excessed and claimed by the Defense Industrial Plant Equipment Center (DIPEC).

Question. Does this audit finding reflect a Navy-wide management of excess equipment or is it to be considered an isolated occurrence?

Answer. This is an isolated occurrence. Keeping excess lots in storage does not reflect Navy-wide management of equipment. Navy policy, as reflected in the NAVCOMPT manual, volume 3, is to return excess material to supply immediately upon determination that it is excess to current needs.

SUPERVISOR OF SHIPBUILDING, CONVERSION, AND REPAIR, SAN FRAN, CA

Question. In its ongoing review of the various Supervisor of Shipbuilding (SUPSHIP) offices, the Naval Audit Service also reviewed SUPSHIP San Francisco. In this particular instance the auditors found that the Navy was not using the most advantageous procurement method; contractors were being paid for risk which was not in fact occurring; financial integrity between activities was not maintained; material and equipment not related to ship overhaul or repair work were obtained through a ship repair contract; funding to finance a contract was used from the wrong fiscal year; and improper SUPSHIP financial procedures resulted in customers carrying forward millions of dollars of invalid obligations in each succeeding fiscal year.

Navy ship contracting regulations state that 4 particular prerequisites must exist before formal advertising is the best method for procuring overhauls. Otherwise, "it is a completely ineffective method of procurement". Nevertheless, of 123 job orders for ship repairs and overhauls awarded by SUPSHIP San Francisco in a year, 77 experienced a growth rate exceeding 79 percent. This was largely a result of using formal advertising as a method of procurement rather than negotiation.

Are the criticisms found by the auditors at the SUPSHIP San Francisco office valid throughout the entire SUPSHIP structure?

Answer. No, these criticisms do not apply to other SUPSHIP offices. The type of negotiation depends to a large degree on the complexity of the ships being contracted for overhaul and on the ability of the private sector to accomplish the work. Negotiated procurement is normally used for the more complex ships in which the private sector has little experience. The negotiated procurement procedure allows the Navy to better analyze the prospective contractor's ability to accomplish the work, but this method tends to be more costly.

Formal advertising is normally used for the less complex ships, similar to those contracted for by SUPSHIP San Francisco. There is less risk to the Navy because there is good assurance that the private contractors have the capability to perform the work. Hence, formal advertising will most often give the price advantage to the government. Further, formal advertising is faster and uses fewer of the SUPSHIP's resources. The high growth rate experienced with formal advertised contracts often results from hungry contractors "buying in" to the Navy procured work.

Question. Has increased staffing been made available in order to pursue the economies that can be achieved through negotiated procurement as opposed to formal advertising in certain situations?

Answer. Increased staffing within the SUPSHIP has not been made available specifically to address increases required to conduct more negotiated procurements as opposed to formally advertised procurements. However, increases are programmed in the current five-year defense plan. It is mandatory that the increases be consistent with the work to be performed within the private sector, the procurement method to be used and the types of contracts to be administered. The present balance between workload and procurement appears to be adequate to administer those contracts projected for the private sector using a negotiated procurement method.

Question. According to the audit report, "SUPSHIP is initiating unrecognized reprograming actions between the Operation and Maintenance, Navy Appropriation Budget Activity 2, General Purpose Forces (properly chargeable for repair/overhaul), and Budget Activity 7, Central Supply and Maintenance (properly chargeable for berthing and messing)".

The budget submitted to the Congress is supposed to reflect the Navy's plan for execution during a given fiscal year. Since the auditors have documented the fact that you do not execute according to your own budget plan, does this mean that the fiscal year 1983 request for overhaul repair before the Committee is not accurate?

Answer. Budget estimates for fiscal year 1983 are considered to be accurate for overhauls and for berthing and messing requirements. The problem cited in the audit is that the Supervisor in his Invitation for Bid does not insist on a separate bid for repair and for berthing and messing. Thus, the contractor's bid covers both requirements, and the Supervisor allocates the funding requirement in the two areas based upon his estimate of the cost. NAVSEA is currently reexamining this policy.

Question. How many times and how many millions of dollars do you estimate that the Navy has violated the Committee's reprograming thresholds as a result of the accounting practices revealed in this audit report?

Answer. The Navy does not consider that any reprograming thresholds have been violated. The Supervisors' estimates for berthing and messing may, in fact, be too high in one instance and too low in another instance. Across all the supervisor offices, however, the net sum is considered to be close to zero.

SUPERVISOR OF SHIPBUILDING, CONVERSION, AND REPAIR, BROOKLYN, NEW YORK

Question. The mission of the Supervisor of Shipbuilding (SUPSHIP) at Brooklyn, New York is to administer Navy Department and other Department of Defense shipbuilding, design, conversion, overhaul, repair, alterations, activations, and inactivations for Navy ships at private yards. In a report published last December the Naval Audit Service documented several significant problems with the management of this effort. For example, the auditors found that growth work was being reported as part of the basic contract award; ship repair and alteration work costs were being charged to the wrong organizations; obligations in excess of $40 million were not reported for periods of up to 5 months at a time; contracts were charged to the wrong fiscal year; accounting records were maintained on a local memorandum basis while the official accounting system was largely ignored; and final negotiated prices were substantially above government estimates consistent even though there was no documentation in the contract file explaining the large differences.

Since all of the SUPSHIP offices function under similar regulations and procedures, and since several other audit reports have found significant problems with the management and financial accounting at other SUPSHIP offices, does the Department of Navy feel that it has lost management and financial control of the SUPSHIP effort?

Answer. The Navy does not feel that it has lost management and financial control of the SUPSHIP effort. However, it is clear to Navy that financial control at some SUPSHIP offices must be improved in terms of accuracy and response time. This action is being vigorously pursued by COMNAVSEASYSCOM.

A major problem that has contributed to the current weaknesses noted is the shortage of civilian personnel ceilings in the SUPSHIPS. Additional ceiling is programed in the five-year defense plan which will help alleviate the problems described.

Question. One of the areas that has consistently been criticized in recent years is a significant growth in overhaul and repair packages on Navy ships. According to the audit results this problem may be even larger than has been reported. For example, the auditors found that new work and work which was essentially growth on the original contract have been reported as being part of the basic original contract award. In one specific instance documented by the auditors a contract is reported as having 30.8 percent growth work when the real increase was 42.5 percent. As a way of an explanation SUPSHIP explained that the method used was also used by all other SUPSHIP offices.

To what extent do you estimate the amount of growth work in fiscal years 1981–83 is wrong in the budget estimates for overhaul and repair because of the poor accounting procedures used by the Navy?

Answer. Growth work is not estimated in the budgeting process. The budget estimate is based upon the total amount of work required to overhaul the ship. Growth is a function of the quality and completeness of the work package, the business environment, and the extent of new work caused by unknown factors since the specifications were developed. There is a vigorous Navy effort underway to reduce growth because of its adverse effect on schedule and cost.

Question. Guidance for correcting these transactions was reportedly to have been issued by the Naval Sea Systems Command by August 15 of last year. Has such guidance been issued, and if so please provide a copy for the Committee's record of the actual documents submitted to the field activities.

Answer. Yes, guidance was provided by NAVSEA Instruction 4700.8 of August 14, 1981. A copy has been provided herewith.

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO
NAVSEAINST 4700.8
07/JCM
Ser 69
14 August 1981

NAVSEA INSTRUCTION 4700.8

From: Commander, Naval Sea Systems Command
To: All Offices Reporting Directly to COMNAVSEA
Distribution List

Subj: Performance improvement of surface ship (non-nuclear) Regular Overhauls (ROH), Selected Restricted Availabilities (SRA), and depot level maintenance and modernization; policy and guidance for

Ref: (a) OPNAVINST 4700.7E of 28 May 1974, Subj: Maintenance of Ships; general policies concerning
(b) NAVSEANOTE 5400 of 18 Jul 1978, Subj: NAVSEA Program for Improvement of Surface Ship Overhauls in the Private Sector (canceled)
(c) NAVSEANOTE 5400 of 11 Jul 1980, Subj: Establishment of the Surface Ship Overhaul Improvement Management Office (NAVSEA 07D) (canceled)
(d) NAVSEANOTE 5420 of 6 Jan 1981, Subj: Depot Operations Improvement Program Board of Directors (canceled hereby)

Encl: (1) Statement of Policies for Navy Ship Overhauls

1. Purpose

a. To guide and direct significant and rapid improvement in naval ship depot level ROH and SRA performance.

b. To provide policies and guidance for both Naval Sea Systems Command (NAVSEA) headquarters and depot level field activities.

2. Cancellation. This instruction cancels and supersedes NAVSEANOTE 5420, NAVSEA 07/JCM Ser 01 of 6 Jan 1981, Subj: Depot Operations Improvement Program Board of Directors.

3. Background. Poor surface ship (non-nuclear) ROH and SRA performance, including maintenance and modernization work, is continuing to be a major problem for NAVSEA. We are plagued by inadequate schedule adherence resulting in late overhaul completion dates, questionable quality of workmanship, and uncontrolled growth in work during an overhaul. Many corrective actions are underway but have failed to date to achieve the quantum improvement in total overhaul performance we must achieve to adequately perform our NAVSEA mission.

4. Approach. NAVSEA holds the total responsibility to execute ship overhauls that will ensure that each ship is capable of reliable

operations over the next operating cycle. The Type Commanders (TYCOM) and the Chief of Naval Operations (CNO) are the decision makers as to the specific maintenance and modernization work that will be done. We in NAVSEA must provide technical guidance and professional engineering leadership throughout the overhaul planning process to help the Type Commander optimize work package decision-making and to better prepare us to execute the overhaul. In this context we are hereby taking charge of the ship overhaul process and implementing improvement via a single coordinated program, the Depot Operations Improvement Program (DOIP), covered by this instruction. The principal focus of all DOIP initiatives is to (1) improve the quality of all shipwork to ensure reliable shipboard operation over the next operating cycle, and (2) complete all ROHs and SRAs no later than the scheduled completion date established prior to overhaul commencement. To achieve essential near term results, this program approach principally involves implementation of improvement initiatives by the overhaul executing activities, with NAVSEA headquarters acting in the role of advocate to the field activities' needs.

5. Guidance and Policies. Enclosure (1) to this instruction is made up of a set of guidance and policy statements designed to guide NAVSEA activities in the performance of surface ship (non-nuclear) overhauls. The statements in enclosure (1) represent command policies and are consistent with reference (a). A separate NAVSEA notice will promulgate a program plan for managing specific improvement actions required in support of these policies and guidance.

6. Depot Operations Improvement Program (DOIP). Reference (b) established an Overhaul Improvement Program. The Surface Ship Overhaul Improvement Management Office (NAVSEA 07D) was established by reference (c) to implement the program.

7. Depot Operations Improvement Program Board of Directors. Reference (d) established the Depot Operations Improvement Program Board of Directors. COMNAVSEA chairs this board which consists of the Deputy NAVSEA Commanders 01, 02, 04, 07, 92, 93, and 94. NAVSEA 07 is the principal executive member and NAVSEA 07D serves as Executive Secretary. A recording secretary is also provided by NAVSEA 07. The Board's functions include:

a. Establishing depot overhaul and repair performance measurements.

b. Establishing priority for program tasks.

c. Reallocating resources.

d. Reviewing program tasks.

e. Redirecting improvement efforts.

f. Directing institutionalization of improvements.

g. Producing a program plan to aid in coordinating and managing DOIP-sponsored improvement initiatives.

The Board meets approximately every other week at the call of the Chairman and conducts business following an agenda promulgated by NAVSEA 07D.

8. Application. This instruction applies to all non-nuclear propulsion surface ship depot maintenance availabilities unless exempted by the Commander, Naval Sea Systems Command.

9. Action

a. All addressees shall implement and adhere to the command policies and guidance provided in this instruction.

b. Civilian personnel will incorporate assigned duties into merit pay objectives.

c. All Shipyard Commanders and Supervisors of Shipbuilding, Conversion and Repair are to notify NAVSEA within a period of 120 days regarding the approach being employed to implement the policies and guidance set forth in this instruction.

E. B. Fowler

E. B. Fowler

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NAVSEAINST 4700.8
14 August 1981

STATEMENT OF POLICIES FOR NAVY SHIP OVERHAULS

1. Purpose. It is the intent of the Naval Sea Systems Command (NAVSEA) that an environment be created that results in on-time, quality overhauls in the public and private sectors. Accordingly, Shipyard Commanders and Supervisors of Shipbuilding, Conversion and Repair (SUPSHIPs) must utilize every available resource to control growth, maintain schedule adherence, and ensure a coordinated, cohesive planning and production effort. In the private sector, SUPSHIPs must also create a contracting environment, consistent with NAVSEA's solicitation area policy, which incentivizes the contractor to achieve the goals established for each overhaul. This document provides policies and guidance designed to foster the attainment of on-time, quality overhauls.

2. Executive Summary of Policies. The following 17 policy statements represent an executive summary of the critical command policy established in this document.

a. The quality of work in an availability must be adequate to permit the ship to perform its mission without having to resort to an unplanned industrial availability during the subsequent operating cycle.

b. The planning for ROHs and SRAs, including the early identification and timely availability of all drawings, Government-Furnished Equipment (GFE) and Long Lead-Time Material (LLTM), and the execution of the ROHs and SRAs must ensure completion within the established time frame.

c. The field commanders (naval Shipyard Commanders and SUPSHIPs) are in charge of ensuring that overhauls are planned and executed on schedule.

d. Field commanders will take full advantage of all permissable means to incentivize the overhaul process.

e. Unrealistically tight scheduling of naval shipyard workloading has been abandoned. Based on an assessment of capabilities, naval shipyards will be workloaded by NAVSEA at 100 percent of true capacity.

f. The field commanders will analyze the pre-availability work package and validate that it:

(1) Is executable with available resources within the projected schedule.

(2) Will achieve the goals of the overhaul.

(3) Has reasonable reserves for growth and new work.

Enclosure (1)

Best Available Copy

g. Growth in work and emergent mandatory work should not exceed 10 percent of the authorized work package; evaluations of and commitments to growth and new work will be made at the earliest possible time, before the overhaul start date.

h. Based on an analysis of the pre-availability work package, the field commander will commit and certify to COMNAVSEA that the schedule goals will be met.

i. All overhaul planning will be based on the goal of having procured and received all necessary hardware and software to execute an ROH or SRA in the shipyard by the start of the overhaul.

j. NAVSEA will establish and maintain work monitoring systems that display accurate, timely, and visible status and prognosis data (with planned versus actual) on all major milestones of overhaul planning and execution.

k. The field commanders will personally send regular Situation Reports (SITREPs) to all concerned to verify that the overhaul is proceeding in accordance with plan. Significant problems—of whatever origin—will be reported immediately with proposed solutions.

l. Each naval shipyard will conduct trend analyses to identify specific areas of chronic deficiency and will assign a technically competent failure analysis team to evaluate and eliminate the problem.

m. The field commanders will conduct post-overhaul assessments to capture and promulgate lessons learned, both good and bad, and fully disseminate this information.

n. More current, proven state-of-the-art automation and data processing equipment, educational aids, and other productivity improvement technologies will be fully exploited in a timely manner to support field activities.

o. The following apply to SUPSHIP operations:

(1) Conduct thorough pre-award surveys to ensure that the proposed contractor can demonstrate he is capable of performing authorized work, with requisite quality, on time.

(2) Require that the contractor perform on schedule, including the previously agreed-to reserves for growth and new work.

(3) Ensure that contract changes or other work authorizations to perform growth or emergent mandatory work are authorized by the fastest possible means to support the scheduled overhaul completion date.

p. The field commanders will be responsible for ensuring that all logistic support, including all drawings, technical manuals, allowance, Planned Maintenance System (PMS) documentation, and test equipment, is available as needed for installation and check-out of systems and equipment and is on board by the end of the overhaul.

q. The field commanders will be responsible for ensuring that Ship Selected Records (SSR) are fully updated in a timely manner to reflect the current ship configuration at the time of overhaul completion.

3. Policy and Guidance Statements. The following policy statements are organized into seven sections. The first five sections address policies of concern to both Shipyard Commanders and SUPSHIPs. These five sections encompass general overhaul and modernization policies, long-range planning policies, work definition and specification policies, work accomplishment policies, and policies concerned with post-overhaul analyses. A sixth section addresses policies peculiar to placement of overhauls by SUPSHIPs with private shipyards, while a last section examines general overhaul policies of specific concern to NAVSEA headquarters personnel.

a. General Policies. The policies presented in the first section of this document are of a broad nature—they apply to actions throughout the entire overhaul cycle, from the earliest long-range planning tasks to the final post-overhaul assessment. Policy subjects include Mission, Authorities, Personnel, Training, Work Quality, and Automated Data Processing (ADP) Usage.

(1) Mission

(a) The mission of the naval shipyards and SUPSHIP offices includes successfully accomplishing all assigned overhauls on schedule, within agreed-to cost limits, and to a level of work quality that permits the ship to operate reliably during the subsequent operational cycle.

(b) An equally important mission of the naval shipyards and SUPSHIPs is to do what is right for the Navy. This means that Shipyard Commanders and SUPSHIPs will do everything possible to make each ship overhaul a success, within the constraints of law and regulation. They are expected to take the extra action (i.e., "go the extra mile") to ensure that the overhaul succeeds.

(2) Authorities

(a) Shipyard Commanders and SUPSHIPs are COMNAVSEA representatives and act with his full authority in all matters relevant to their assigned duties. NAVSEA headquarters' involvement will be reduced to the minimum required by law or to direction from higher authority. The objective is to untie the hands of Shipyard Commanders and SUPSHIPs.

(b) SUPSHIPs and Shipyard Commanders will receive a fair share of the available officer talent and civilian ceiling points.

(c) Ship Logistics Managers (SLMs) and Ship Acquisition Program Managers (SHAPMs) will be the NAVSEA headquarters primary points of contact on all matters relevant to ships under their cognizance. This requirement in no way precludes direct contact by SUPSHIPs or Shipyard Commanders with NAVSEA 00, NAVSEA 07, or other senior officials when the circumstances warrant.

(d) NAVSEA 02 is the primary point of contact for all field and headquarters contracting matters, including Procurement Contracting Officer (PCO) development of the preliminary solicitation area recommendation to NAVSEA 07, release of information germane to the contracting process, and maintenance of business relationships with Master Ship Repair (MSR) contractors.

(e) NAVSEA 07 will be the NAVSEA headquarters primary point of contact on all matters relevant to the management of the shipyards and SUPSHIPs. Additionally, NAVSEA 07 will act as the field commanders' advocate in headquarters as they carry out the intent of the policy and guidance set forth in this instruction.

(f) Currently denied or circumscribed authority requested by a SUPSHIP or a Shipyard Commander, which is certified by him to be important to enhancing the ship's overhaul process, will be considered for delegation to him, provided COMNAVSEA has discretionary authority to do so. When the requested change exceeds COMNAVSEA's authority, action will be initiated to obtain the necessary authority. The objective is to press for changes in law or other constraints that adversely impact the ship overhaul process.

(3) Personnel

(a) Effective working relations must be established and maintained among all participants in the ship overhaul process. We must maintain in our officers in the naval shipyards, SUPSHIPs, and Ship's Force a positive and constructive attitude toward ship overhauls and the management of overhaul work.

(b) Shipyard Commanders and SUPSHIPs will take full advantage of all permissible means to incentivize personnel working in their offices. This requirement includes elimination of disparities in pay between blue and white collar workers, a balanced civil service grade structure, and cash awards for exceptional performance, where permitted by law and regulation.

(4) Training

(a) All SUPSHIP and naval shipyard managers will be trained for the positions they hold. The state of readiness and training of naval shipyards and SUPSHIP personnel will be regularly examined and evaluated in detail by knowledgeable NAVSEA personnel.

(b) Training programs will employ quality training materials based on modern educational theory and methods. The materials will be presented by instructors knowledgeable in the functions addressed by these programs.

(5) Work Quality. Quality of work is not a management variable. It is to be attained by including quality requirements in SUPSHIP overhaul contracts with private shipyards and in naval shipyard job work documents.

(6) ADP Usage. The power of automatic data processing and word processing equipment to aid in accomplishing effective, economic, on-time overhauls will be fully exploited by SUPSHIPs and Shipyard Commanders.

b. Long-Range Planning Policies. This group of policies discusses a number of issues that arise as long-range planning for a ship overhaul begins. Subjects include Analyis of Overhaul Characteristics, Adequacy of Resources and Facilities, Workloading, Design Considerations, and Pre-overhaul Agreements.

(1) Analyzing Overhaul Characteristics. The size and nature of the anticipated ship work package will be compared with historical data from previous overhauls to determine manpower requirements, facility constraints, and the scope of planning efforts that will be required.

(2) Adequacy of Resources and Facilities. The overhaul requirements established by the analyses of overhaul characteristics will be compared to the shipyard's manpower and facilities to assess whether or not, given its existing commitments, the shipyard can support the assigned availability within the established schedule, cost, and quality constraints.

(3) Workloading. Naval shipyards will be workloaded by NAVSEA at 100 percent of capacity. Non-ship work, temporary hires, and internal manpower management will be used to cope with trade imbalances and the inevitable work peaks and valleys. Overtime will be used only as a last resort.

(4) Design Considerations. Good design work is the centerpiece of our overhaul business. Poor quality drawings and installation guidance documents cannot and will not be tolerated. Inadequate drawings and material specifications will be traced back to the source to ensure the error is not made again.

(5) Pre-Overhaul Agreements. Shipyard Commanders and SUPSHIPs will monitor the overhaul planning process until a pre-overhaul agreement is signed with the Type Commander (TYCOM) that describes the overhaul in manpower, cost, quality, and schedule terms, with explicit reservations for growth and new work and a schedule that can be achieved.

c. Work Definition and Specification Policies. This group of policies discusses issues concerned with work definition and specification development. Subjects include Work Priorities, Specifications, Pre-Overhaul Test & Inspection (POT&I) Usage, Workload Forecast (WLF) Estimates, Validation of the Work Package, Growth and New Work, and Job Order and Schedule Issuance.

(1) Work Priorities. SUPSHIPs and Shipyard Commanders will regularly perform an analysis of their assigned work tasks and assign available resources to them in decreasing priority order. Recommendations for disposition of the tasks exceeding available resources will be submitted to SEA 07 for action.

(2) Specifications. The specifications for ship repair work will normally ensure that the ship equipment or system involved is restored to the original performance profile. Upgrading to an enhanced performance profile normally will be the subject of an appropriate Ship Alteration (SHIPALT).

(3) POT&I Usage. The purpose of the POT&I is to provide a report that is beneficial in determining the work required to ensure the ship will operate reliably during the next operating cycle. In the longer term, the goal is to eliminate or reduce the reliance on POT&Is for work definition by the use of work monitoring, engineering analyses, and directed repair.

(4) Workload Forcasting Estimates. Adequately planned workforce manday estimates, including the SHIPALT portion of the work package, will be developed at the trade level and integrated with the total shipyard workload and work force projections to determine the ability of the shipyard to commit to accomplishing its total planned workload on schedule.

(5) Validation of the Work Package

(a) Shipyard Commanders and SUPSHIPs will make a pre-overhaul work package analysis following the Work Definition Conference (WDC), to validate that the overhaul: (1) can be executed within the schedule; (2) will achieve the desired overhaul results; and (3) includes rational reserves for growth and new work. A pre-overhaul report will be made by Shipyard Commanders and SUPSHIPs to COMNAVSEA, certifying their readiness to start and accomplish the overhaul to the requisite level of quality, on schedule. Appropriate overhaul parameters, including total direct labor mandays and reserves for growth and new work, will be reported with this certification.

(b) Shipyard Commanders and SUPSHIPs will, as part of their work validation tasks, obtain a written statement from the TYCOM that indicates his agreement to the work as planned. This statement will incorporate explicit reservations for growth and new work and will affirm that the agreed-to schedule will be met.

(6) Quality of Work Definition. Work package documentation will be of such quality that shipyard waterfront personnel will have a clear, unambiguous understanding of the work tasks required of them and how they should proceed to accomplish their work.

(7) Growth and New Work. Mandatory work is work that is necessary for the protection of life, ship survival, or the proper execution of the ship's mission. Growth is defined as additional work necessary to accomplish the original intent of the job. Emergent or "new" work is work authorized during the overhaul cycle. Growth and new work are still excessive throughout the field activities of NAVSEA. We should be able to manage work so that growth and new work do not exceed 10 percent of the total work package during the overhaul.

(8) Job Order and Schedule Issuance. Naval shipyards will ensure that all work instructions agreed to at the WDC are issued and scheduled prior to overhaul start. Job orders will be complete in every respect and will include references to all appropriate drawings, manuals, repair standards, and tests.

d. Work Accomplishment Policies. The following policies are devoted to an examination of the work actually undertaken during the overhaul cycle. Subjects include Quality, Work Accomplishment, Work Monitoring Systems, Asset Availability at Overhaul Start, Schedule Adherence, Work Process Reviews, Cost Controls, and Trend and Failure Analyses.

(1) Asset Availability at Overhaul Start

(a) All of the documents, material, and funding considered necessary by the field commander to execute a ship overhaul will be available to the shipyard or SUPSHIP at the start of the overhaul. In the case of naval shipyards, this requirement encompasses all software, hardware, overhaul materials, tools, and money, including an allowance for planned growth and emergent mandatory new work.

(b) Work package changes after the start of the overhaul, other than planned growth and emergent mandatory new work within pre-overhaul agreement limits, will require the approval of the SUPSHIP or the Shipyard Commander.

(2) Schedule Adherence

(a) Unrealistic schedules cause inefficient use of resources and can result in a cavalier attitude toward discipline. Accordingly, the philosophy of tight and unrealistic schedules has been abandoned as unsatisfactory. Everyone will adhere to a philosophy of realistic schedules—with discipline. Senior officers and civilians are responsible to ensure they can and will produce overhauls on schedule.

(b) Shipyard workload planning will reflect a schedule that permits a minimum of nine out of ten overhauls to be accomplished on time.

(3) Quality of Work Accomplishment. Repair and alteration work will be of such quality that the ship is capable of operating reliably during the next operating cycle.

(4) Work Monitoring Systems

(a) SUPSHIPs and Shipyard Commanders will establish and maintain work monitoring systems that produce accurate, timely, and visible status and prognosis data on all substantive aspects of the ship overhaul planning and execution cycle. These systems will display planned versus actual information. Reported actual information will be of unvarnished accuracy and will be traceable to an accountable individual.

(b) Regular written SITREPs in accordance with NAVSEA 07 direction will be provided by all SUPSHIPs and Shipyard Commanders to NAVSEA headquarters and to the TYCOM and Fleet Commanders. These SITREPs will be accurate, timely, tough minded, and professional in tone, and will address all significant problems that are not being rapidly and successfully resolved, along with their proposed solutions. A summary of the status of committed and uncommitted planned reserves for growth and new work will also be provided in the SITREPs, together with the predicted end cost of the overhaul. These SITREPs will be the primary source of official information for NAVSEA regarding overhaul progress.

(5) Work Process Reviews

(a) Naval shipyard work process reviews will be established to methodically and regularly appraise in depth each yard's capability to perform high quality work by approved methods. Facility tooling, processes, supervision, mechanics, training, troubleshooting, engineering, and so forth will all be reviewed in depth. In addition, internal management audits will be conducted every two years to ascertain the efficacy of on-board shipyard management.

(b) A follow-up procedure will be designed to formally examine each instance of unsatisfactory work. The Shipyard Type Desk will initiate these actions.

(6) Cost Controls. Naval shipyards will control costs via prudent management. SHIPALT and repair work packages will be fixed priced at the 50 percent of the overhaul completion schedule in accordance with current NAVSEA instructions.

(7) Trend and Failure Analyses

(a) Trend analysis will be used to identify specific areas of chronic deficiency.

(b) Failure analysis teams will be established to perform a vigorous follow-up on each major failure.

e. Post-Overhaul Policies. The policies presented below discuss issues related to post-overhaul problems. They include Post-Overhaul Assessments, Guarantees, and Departure Reports.

(1) Post-Overhaul Assessments. Post-overhaul assessments will be conducted by both SUPSHIPs and Shipyard Commanders to capture and promulgate lessons learned. These assessments will include an examination of all aspects of the overhaul process, including the things that went right, as well as the things that went wrong.

(2) Guarantees

(a) Work accomplished during the overhaul will be guaranteed for 90 days after completion (60 days in the private sector). The shipyard will be responsible for correction of deficiencies during this period.

(b) A Guarantee Engineer will be assigned to each scheduled availability for the entire guarantee period. He will facilitate the prompt resolution of guarantee work and will go to sea with the ship, as necessary, to properly discharge his responsibilities.

(c) A report will be written by the Shipyard Commander or SUPSHIP within 30 days of completing the guarantee period. The report will appraise the delivered quality of the ship overhaul work, the equipment mortality experienced during the guarantee period, and any outstanding quality problems. This report will be forwarded to COMNAVSEA, the Commanding Officer (CO) of the ship, and the TYCOM and Fleet Commanders, with request for prompt comments. A significant lack of agreement with the report by the TYCOM will be resolved by COMNAVSEA.

(3) Departure Reports. A Departure Report will be prepared upon the completion of each overhaul to provide final work status and

return cost data. A specific element of this report will focus on growth and new work, including its disruptive effects on time and cost.

f. SUPSHIP Policies. Many of the policies just presented address both naval shipyard and SUPSHIP operations during the overhaul cycle. This section addresses policies peculiar to SUPSHIP operations, and includes General SUPSHIP Policies and Planning and Work Execution Policies.

(1) General SUPSHIP Policies

(a) NAVSEA will give priority to improving contracting procedures for private sector ship overhauls.

(b) The contract type used for private sector ship overhauls will be determined by the cognizant SUPSHIP, or NAVSEA 02 in the case of headquarters' contracts, and will be that contract type most suitable for the specific ship overhaul in question.

(c) All actions required by Navy personnel in support of a contract for a ship overhaul will be accomplished in a manner that makes it as easy as possible for the private shipyard to execute the contract, but in no case will the contractor fail to meet the requirements of the contract.

(2) Planning and Execution Policies

(a) SUPSHIPs will perform thorough pre-award surveys to ascertain if the proposed shipyard is capable of accomplishing the availability to requisite quality, on schedule. Awards will not be made to a shipyard with a questionable ability to succeed.

(b) Methods will be developed by COMNAVSEA and the SUPSHIP to require the shipyard to perform on schedule, including a pre-agreed amount of growth and new work, approved within a specified time frame.

(c) Contract changes or other work authorizations to perform growth or emergent new work will be authorized by the fastest available means consistent with maintaining the current ship overhaul completion date.

g. Headquarters Policies. Many of the policies discussed above have direct applicability to NAVSEA headquarters personnel. The following NAVSEA general policies underpin the responsibilities of these individuals.

(1) NAVSEA headquarters personnel will help to make each overhaul a success by bringing their resources to bear on problems as they develop.

(2) Actions by NAVSEA headquarters on field activity requests will be timely and responsive.

(3) Performance, compliance with NAVSEA policy and directives, and the state of readiness and training of naval shipyard and SUPSHIP personnel will be periodically examined and evaluated in detail by knowledgeable NAVSEA personnel.

(4) SUPSHIPs and Shipyard Commanders will receive a fair share of the officer talent and civilian ceiling points available to the command.

Question. During repair and alteration work on a ship, funding for particular types of work may come from different activities. For example, in a typical case certain funds would be received from the Chief of the Atlantic Fleet while other funding would come from the Naval Sea Systems Command. In one particular case $20.1 million was charged to the Atlantic Fleet even though $8.6 million should have been charged to the Naval Sea Systems Command. The auditors concluded that "since billed costs are incorrectly allocated to customers, official records are inaccurate."

The Naval Sea Systems Command which is responsible for policy in this area concurred with the audit findings. Since all supervisors of shipbuilding offices follow essentially the same procedures in these matters, does this mean that the numbers before the Committee reported as actual expenditures for each of the different organizations involved in the ship repair and maintenance account are "fictitious" as described by the SUPSHIP?

Answer. The numbers before the Committee are based upon three different factors based upon the fiscal year involved.

In fiscal year 1981, with most of the ships having been completed, the data is based upon obligations and expenditures. Sufficient time has elapsed to permit the accounting records to be completed. The one case in SUPSHIP Brooklyn was a departure from appropriate charging procedures which allowed the error to occur. This problem has been corrected.

In fiscal year 1982 the cost per ship is based upon the negotiated planning estimate as between the type commander and SUPSHIP. Fiscal year 1982 is not based upon accounting records inasmuch as no fiscal year 1982 overhaul has been completed.

In fiscal year 1983 the estimate for each overhaul is, of course, the Navy's estimate based upon agreements reached between the type commander, the fleet commander, and the Office of the Chief of Naval Operations.

Question. Official reports submitted did not include obligations totalling $41.9 million that had been incurred up to 5 months prior to the reporting date. How can the Department of Navy adequately manage this multi-billion dollar program when hundreds of millions of dollars may well be expended half a year before the Naval Sea Systems Command or the Chief of Naval Operations is aware that the funds have been obligated?

Answer. The situation at SUPSHP Brooklyn is not typical and has been remedied. It should be noted that financial control is exercised through a dollar planning estimate for each ship agreed to by the customer (type commander for repairs or NAVSEA for SHIP Alts) and the producer (SUPSHIP). This planning estimate can only be changed by authorization of the customer. By closely controlling the planning estimate and monitoring the physical progress of work, managers at the SUPSHIP office, type commander and NAVSEA are fully aware of and in communication on problems with financial obligations and expenditures which must be corrected. In effect, the official reports, which in the instant case were untimely, parallel the management system existing between the parties which closely control the financial expenditures for an overhaul.

Question. According to the auditors, 16 contract modifications and 5 new contracts improperly cited prior year funds to finance the effort. Is this typical through the Naval Sea System Command organization?

Answer. The funds in the basic contracts were appropriate. The allegation relates to 16 contract modifications and five other new fiscal year 1981 work requirements rather than five new contracts. Common practice is not to use prior year funds to finance increases in scope. Increases in scope to original job orders are chargeable to the funds current at the time the modification is authorized. In all instances the transaction records have been revised to reflect appropriate funding.

Question. SUPSHIP estimating procedures for pricing the cost of job order modifications appear to be inadequate. Final negotiated prices were found to be substantially above government estimates and there was no documentation in the contract file explaining these differences. For example, the auditors found that the SUPSHIP surveyors estimated that 103 contract modifications should cost approximately $735,000. However, because the SUPSHIP contract divisions had no confidence in their own surveyor estimates, a separate analysis was performed and a price of $1.1 million was estimated. Actual contractor proposals totalled $1.9 million with negotiated prices ultimately being approximately $1.7 million. The auditors concluded that "possible explanation for wide variances between independent estimates and final negotiated prices could be poor estimating, poor negotiating, or a combination of both."

Do you attribute the difference to poor estimating or poor negotiating?

Answer. The differences are not necessarily caused by poor estimating or poor negotiating but rather a difference in the interpretation of the scope of the job to be estimated and other influencing factors. Also the contract division may have been more tuned to prevailing competitive market conditions at the time of the estimate. Better communications and mutual understanding of problems between the two divisions are certainly required.

Question. Why was no documentation in the contract file to explain these sizable differences?

Answer. There are basically two problems that must be faced: one major problem is the large workload at SUPSHIP Brooklyn with only five negotiators to handle the workload. Navy has been unable to allocate additional personnel within current ceiling constraints. The second problem is one of defining at what point specific documentation must be maintained in the contract files and what should be retained. Navy has recommended up to a 10 percent variance without detailed documentation in the contract files, and this recommendation has been accepted by the audit service, i.e., when the disparity between the negotiated price and the prenegotiation price exceeds 10 percent, detailed documentation will be required.

Question. Is this range typical across the SUPSHIP offices?

Answer. No, it is not typical across the SUPSHIP offices. Surveyor's estimates will, of course, differ in some degree with the final cost of the job order due to many factors such as work disruption, work acceleration, inflation, and other factors.

Question. Does the contract division at other SUPSHIP organizations prepare independent estimates because they do not trust their surveyors?

Answer. As previously discussed, it is not a matter of trust but a matter of fostering better communications and mutual understanding between the two divisions.

Question. The SUPSHIP stated that "a protracted and negotiating philosophy that would squeeze the last buck out of change orders multiplied by the average of 400 change orders per ship would create an impossible negotiating posture with the contractor and would create a vast backlog that would lead to the large claims situation that the Navy has just gotten away from." Is it the Navy position that claims are to be avoided even if it means not squeezing out "the last buck" in an inflated contract?

Answer. No, it is not the Navy's position. Claims, of course, should be avoided but not at the expense of sacrificing the government's best interest. Once a final determination is made by the contracting officer that a proposed settlement is fair and reasonable, that settlement position will be maintained even if it results in a claim. One reason for a reduction in claims which has been achieved is the direct result of tighter management controls over change order issues.

Question. According to the auditors, the Naval Sea Systems Command has indicated that 10 percent is considered a normal estimating differential. What is the typical range of differentials across all of the different SUPSHIP organizations?

Answer. The typical range of differentials across all SUPSHIP organizations has been in the area of 10 percent which normally is considered acceptable.

Question. Although the Naval Sea Systems Command concurred with the audit findings, a target date for implementing corrective action was not provided. What action was taken? Please provide a copy for the Committee's record of the actual directives into the SUPSHIP offices.

Answer. A Contract Management Review (CMR) was conducted by NAVSEA during the period of 17 through 20 May 1982. The results of this review have not yet been finalized nor promulgated. Generally, the CMR revealed that the contracts department is completing the contractual aspects of the job, but the documentation is not always present in the files. Recommended actions will state that contracts personnel ensure that all contract files are fully documented in accordance with DAR/NCD/SRCM including suitable memoranda of negotiations and D&F's.

FINANCIAL MANAGEMENT OF THE AIR FORCE INDUSTRIAL FUND

Question. On September 10, 1981, the Air Force Audit Agency published a report reviewing the financial management of the depot maintenance portion of the Air Force industrial fund. The auditors concluded that "work was entered into the repair process in excess of obligated customer funds and assets were repaired in excess of current operational requirements."

This audit report was started in June 1979 and completed in September of 1980 with a draft report provided to Air Force management at that time. It was not until a full year later that the report was released. Because of the high quality of the audits performed by the four Department of Defense audit agencies this committee has relied extensively on their findings. From time to time DOD is less than forthcoming in providing copies of various studies and reports which are critical of DoD operations. Did the Air Force sit on this report for a full year before releasing it because it was critical of Air Force financial procedures?

Answer. No. The Air Force did not sit on this report. Because of the complexity of the issue management officials in AFLC and the Air Staff met many times with the auditor to discuss the problems and, more importantly, to discuss solutions that would not disrupt the repair process.

Question. The auditors found that work was inducted in excess of funded customer orders for all types of repair service. This excess induction was estimated at $40 million and "resulted in repairs not consistent with current computed repair requirements." Since the auditors concluded that this excess induction above and beyond repair requirements is an annual event, can the Committee delete $40 million from the Air Force fiscal year 1983 request by directing that the Air Force only perform repairs consistent with its requirements?

Answer. Inductions over the above customer order quantities are allowed only to cover unserviceable turn-ins against customer requirements. Due to the unpredictability at NSN level of how many assets will be condemned or returned to supply for lack of parts, ensuring an exact match of supportable customer assets to depot maintenance capability is difficult. AFLC policies and procedures require intense management attention to ensure only those funded requirements applicable to the appropriation fiscal year are accomplished.

It should be pointed out that the $40 million of inductions above funded customer orders occurred at various times during the year. The auditor reported that the end-year over-induction was estimated to be $6.8 million. This was offset by under-inductions of assets which were not input for work until the following year. The net deviation at end-year was less than one day of production. While we have taken action to ameliorate this discrepancy, the auditors acknowledged the difficulty of assuring continuity of work while at the same time maintaining integrity of customer orders at the year-end.

Question. The auditors also found that each of the air logistics commands performed work in fiscal year 1979 on requirements funded on fiscal year 1980 project orders prior to the availability of fiscal year 1980 O. & M. appropriation. The Air Force agreed with the audit finding.

In the management response it was stated that "the overbuy policy will be clarified/revised to ensure that the induction of overbuy items will be made considering funding limitations." Does this mean, for example, that the Air Force will no longer perform work in fiscal year 1982 that is really a fiscal year 1983 requirement, or does it mean that the Air Force will no longer use fiscal year 1983 funds to pay for work actually performed in fiscal year 1982?

Answer. Overbuy policy has been eliminated. The depot maintenance manager negotiates and inducts only those requirements funded by the customer, the only exception being inductions to cover unserviceable turn-ins. The Air Force will not perform fiscal year 1983 requirements during fiscal year 1982, nor will fiscal year 1983 funds be used to pay for work performed in fiscal year 1982.

Question. As a practical matter what change in workload or in funding has resulted as a consequence of this particular audit funding?

Answer. Specific policies and procedures on financial and workload management were issued by the Logistics Command on 11 Aug. 1981. To ensure excess inductions do not result in production above customer requirements, the overbuy policy has been eliminated. Inductions above customer order quantities are only allowed to cover unserviceable turn-ins. No direct charges are allowed against requirements until customer funds have been obligated.

Question. The auditors also found that prior year project orders were allowed to remain open for extended periods of time beyond the end of the fiscal year. As a result, unused funds remained unnecessarily obligated and improper adjustments were found to have been made to obligate expired appropriations. The auditors found that although the Air Force had obligated $13 million for certain projects, the work sat incomplete for three years at three air logistic centers because the work was such a low priority. Why should the Congress provide funds in situations such as this and build up unexpended balances if the work is so unimportant that the Air Force can get by for three years without completing it?

Answer. Certain categories of work, by their very nature, have extended flow times. Such work includes manufacture where extended lead times are required to acquire material, crash/battle damage repair, and prototype for future repairs. In addition, abnormal workloads occur with long obligation periods. For example, Air Force Systems Command issued a multi-year order in fiscal year 1979 for software development on E3A electronics. The fact that certain jobs remain open for long periods of time cannot be considered a reflection of low priority. Most of these types of jobs are funded by other than the O. & M. appropriations.

Question. The audit report also revealed that repair contractors had performed work and received payment from the Air Force industrial fund before the O. & M. customer had even given any money to the industrial fund to perform the work to begin with. If the customer has not tasked the industrial fund to perform work and provided money to support this request, how can the industrial fund proceed to have work done and pay a contractor?

Answer. The Industrial Fund should not induct or pay for contract work without an order backed by customer obligations. To preclude this from happening changes to AFLCRs 66-40 and 66-8 were issued in February 1980 to ensure customer funds are obligated prior to the induction of work to contractors.

Question. Finally, the auditors report that apparently the Air Force O. & M. appropriation had so much money that it was able to obligate more than was necessary resulting in the deobligation of $10.9 million because it had been obligated for work which didn't exist. How much do you estimate the fiscal year 1983 is overstated since the Air Force Logistics Command concurred with the audit finding?

Answer. There is no overstatement in the fiscal year 1983 budget request. AFLC took action to correct the conditions that caused the deobligation. The corrective action includes:

a. Authorization to induct additional items to cover condemnations. Procedures and data systems have been changed to require more management review of items inducted for repair at the fiscal year close-out.

b. Procedures and data systems changes to require additional management review of the supportability of a work load before it is inducted. These changes particularly affect low volume items (less than 12 generations annually).

c. Implementation of the buyer/seller form of management for contract depot maintenance. This requires a negotiation between the ordering activity (customer/buyer) and the contracting activity (seller). Part of this negotiation is to ensure parts supportability and repairable generation which minimizes the number of orders that are not produced. There is also a monthly review of repairable assets inducted versus contractor projection allowing early identification of production problems.

CONTRACTING FOR MAINTENANCE IN THE AIR FORCE INDUSTRIAL FUND

Question. The Air Force industrial fund obtains most of its spending authority through its reimbursable process with customer activities using their appropriations to fund orders placed with the Air Force industrial fund. In a report published last August the General Accounting Office contends that the Air Force has been making illegal adjustments in its accounting records because it is using customer orders as available obligational authority.

The Conference Report on the fiscal year 1982 Defense Appropriations Bill provided guidance to the Air Force to seek legislative authority it feels necessary to resolve the dispute. The fiscal year 1983 budget before the Committee contains a request of $350 million associated with resolving the problem.

Why is the Air Force requesting an increase of $350 million in the O. & M. account for contract depot maintenance?

Answer. This is in response to Congressional direction in the fiscal year 1982 Defense Appropriations Bill. Specifically, the Air Force was directed to award only those contracts for which appropriations were available. Compliance with that directive requires that obligations formerly incurred by the Depot Maintenance Industrial Fund (without a specific funded customer order) must be covered by obligations in the O. & M., Air Force appropriations. The essence of this change is to require earlier obligation of appropriated funds. This is a one-time TOA request for which there are no associated outlays. The additional obligational authority is required to fully comply with Congressional direction, irrespective of whether such contracts are awarded through the Industrial Fund or directly from O. & M. appropriations.

Question. Is the Air Force requesting any language changes in the fiscal year 1983 appropriations bill addressing this item?

Answer. The Department has requested a language change to Section 708 of the DOD Appropriation Act. This change will provide the Air Force with sufficient annual funding to award depot maintenance contracts for 12-month periods starting at any time during the year. This will allow the contracting workload to be spread evenly throughout the year, thus avoiding severe disruptions inherent in awarding more than 2,000 contracts on the first day of the fiscal year.

Question. Has any legislative package been proposed or any actions been taken by any other committee of the Congress to resolve this issue?

Answer. Both of the Armed Services Committees have recommended deletion of $190 million of the $350 million requested for contract depot maintenance. These Committees have proposed that the Air Force be allowed to continue contracting through the Industrial Fund. These Committees recognize that contracting through the Industrial Fund can be accomplished with less obligational authority than required if contracts are awarded directly between the O. & M. appropriations and the contractor. The Department believes that the total amount of obligational authority associated with depot maintenance contracts is identical whether the contract is awarded directly between the O. & M. customer and the contractor or awarded through the Industrial Fund. The reduced amount of obligational authority in the O. & M. amounts, as recommended by the Armed Services Committees, would appear to be achievable only by requiring that the Industrial Fund continue to incur some obligations for amounts not covered by the O. & M. appropriations. The use of Industrial Funds to cover obligations in excess of the contract depot maintenance obligations incurred by O. & M. appropriations would not appear to be in compliance with Congressional directives.

Question. One alternative would be to provide contract authority to the Air Force industrial fund as recommended by the General Accounting Office.

Would the Air Force support this approach?

Answer. The Department does not support the use of contract authority for contract depot maintenance.

Question. If this approach is taken, how much of the $350 million included in the fiscal year 1983 request would be required?

Answer. Use of contract authority might allow for $350 million of contract authority to be substituted for $350 million of TOA. However, as a practical matter both of these resources would be scored against total DOD authority in a similar manner. Thus no real benefit to DOD would accrue.

Question. A second alternative to the proposal included in the budget would call for the contract depot maintenance remaining in the industrial fund but require that funded customer orders be available before contracts are awarded.

Would this approach be acceptable to the Air Force?

Answer. This approach is acceptable if the language proposed in Section 708 is also provided.

Question. What impact would this approach have on the requirement for the $350 million included in the fiscal year 1983 request?

Answer. The $350 million requested in the budget is required irrespective of whether depot maintenance contracts are awarded through the Industrial Fund or directly from O. & M. if the Air Force is required to comply with Congressional direction to award only those contracts for which appropriations are (fully) available. If the Congress is willing to allow the Industrial Funds to incur obligations on behalf of and in advance of O. & M. customer obligations for that portion of contract depot maintenance costs associated with government furnished parts, then the O. & M. request of $350 million could be reduced by $190 million in fiscal year 1983. In effect this reduction (of $190 million) would recognize that applicable obligations in the O. & M. appropriations would be deferred until subsequent fiscal periods when applicable depot maintenance efforts are completed and billed.

Question. Regardless of the approach ultimately taken by the Congress, it would appear that we are essentially talking about how the government will keep its financial books in order. Is it true that regardless of whether the Air Force operates under its original method, the method proposed in the budget before the Congress, or either of the alternatives suggested here today, the Air Force depot maintenance workload would be identical as would the disbursements on the federal treasury?

Answer. Yes. The objective of any financial system is to prevent disruption in the accomplishment of work. Since contractors are paid on the basis of performance, disbursements should remain the same under any system.

"INTERSERVICE MAINTENANCE SUPPORT"

Question. DOD directive 4151.16 entitled "DOD Equipment Maintenance Program" states that "the objective of equipment maintenance is to sustain weapon and equipment systems in a state of operational readiness consistent with the mission requirements of the operating or tactical elements and at the least total cost." It is also DOD policy that interservice maintenance support will be utilized particularly at the depot level whenever economic benefits will accrue without resulting in significant degradation and operational capabilities. In an audit released last September the Defense Audit Service reports that the military services are not complying with this policy and as a result are possibly wasting millions of dollars a year in duplication and inefficiencies.

The auditors selected 60 items on which an interservicing decision had been made. The auditors found that in 48, or 80 percent, of these instances they were still being repaired by more than one Service even though the decision was to halt this practice. Why is the Department ignoring 80 percent of its own recommendations for eliminating duplication of maintenance across the Services?

Anwer. This question reflects an erroneous reading of the audit. The pertinent section reads as follows: "We reviewed the repair actions on 60 items on which interservicing recommendations were made. Our review showed that 19 of the 60 items had repair actions in fiscal year 1979. However, only 3 of the 19 items had interservice workload. Further tests identified an additional 48 items on which interservice decisions had been made but were still being repaired by more than one Service." The 48 items discussed were not part of the original 60 examined. Also, it is important to recognize that not every stock number will generate a repair requirement every year.

DOD is aware that some recommendations for interservicing are not being implemented. However, there is certainly no intentional disregarding of interservicing recommendations. It should be noted that these are joint Service decisions. Currently interservice decisions result from screening some 57,000 stock numbers. Monitoring and follow-up necessary to assure implementation of interservice decisions on such a large number of stock numbers have been difficult since at this point it is still a manual procedure. We now recognize that there is a problem, and we have made progress in developing a computerized data base for tracking implementation. This automated data system will provide for: (1) increased accessibility to the 57,000 stock numbers; (2) increased accuracy of data; (3) increased speed of obtaining data; and because of the above (4) increased ability of the interservicing community to monitor implementation.

Question. A known weakness in the Defense Cataloging System is that identical and very similar items are given different national stock numbers when they are used in different Services. According to the auditors the DOD interservicing review groups have not even looked at like and similar items with different stock numbers but rather have limited the review to items with identical stock numbers used by more than one Service. Why is the Department not making an effort to genuinely track down like and similar items with different national stock numbers in order to eliminate duplicate depot maintenance capabilities?

Answer. For several years DOD has gone to considerable effort to ensure that "identical" items used by different Services are not given different stock numbers and that single DOD-wide managers are assigned for each individual stock number. In some instances identical items have been assigned different stock numbers often as a result of assignment of different part numbers by different manufacturers. New procedures such as the Defense Integrated Data System part number screening process and the Federal Item Identification Guide documentation are beginning to minimize such duplication. These ongoing efforts have significantly reduced instances of duplication of managment in the Department. Review of similar or like items requires technical and system analysis which is considerably more time consuming and manpower intensive. DOD agrees, however, that such and effort should be initiated at least to the point of determining the potential cost benefits to be attained in eliminating duplicate depot maintenance capabilities versus the cost of the review effort. As an initial step a study project is now being developed for DOD management approval which would establish a milestone plan for systematically reviewing like and similar items in the DOD Catalog and ultimately eliminating duplicate expenditures of maintenance, inventory management and other resources.

Question. Throughout the audit the message comes through loud and clear that one Service does not trust another Service to perform depot maintenance and as a result "potential savings possible from increased interservice maintenance support were not being realized." Why is the Office of the Secretary of Defense not taking firmer action to consolidate those items?

Answer. OSD does not agree that one Service does not trust another Service to perform depot maintenance. Since 1974 both the Maintenance Interservice Support Management Offices (MISMO) and the Maintenance Interservice Support Group (MISG) have aggressively promoted interservicing. This effort has resulted in over 800 interservicing decisions after screening 57,000 stock numbers. The cumulative potential cost avoidance through interservicing went from $47 million in fiscal year 1978 to $174 million in fiscal year 1981. OSD does periodically monitor progress through field visits and reports.

CONSOLIDATION OF ARMY CH-47 DEPOT MAINTENANCE

Question. The fiscal year 1982 Defense appropriations bill directs that no personnel be transferred from the helicopter maintenance program at the New Cumberland Army Depot and that all such maintenance activity be continued at New Cumberland through fiscal year 1982.

Is the Army complying with this direction?

Answer. Yes. To ensure no misinterpretation of compliance with congressional intent expressed in the fiscal year 1982 Appropriations Bill, Army's intentions are to continue aircraft workloading at NCAD at least through 1st quarter fiscal year 1983. No transfers or RIF notices will be issued to personnel associated with the depot consolidation, and no movement of aircraft maintenance equipment from NCAD will occur until the fiscal year 1983 appropriation legislation has been passed and reviewed.

Question. Our investigative staff has reported that the first of 5 scheduled CH-47's has been inducted for maintenance at Corpus Christi. Why was the CH-47 inducted at Corpus Christi against this Committee's direction?

Answer. These aircraft were identified as beyond field repair capability by a team from NCAD. The repair parts were ordered and a work authorization number established in fiscal year 1981 for accomplishment at NCAD. When the parts were about to be received and the first aircraft inducted, NCAD stated that they did not have the capability to accomplish and suggested that the aircraft be sent to CCAD. NCAD would send a team to CCAD to train the workforce on the CH-47. The man-hours used on this type aircraft to inspect, repair and return to user are 1,800 as compared to the 11,500 needed for the normal NCAD Overhaul Program. Under the existing conditions this procedure made good management sense. This approach did not conflict with the conference report since NCAD was fully workloaded and no personnel were involuntarily transferred to CCAD.

Over 750 items of equipment at New Cumberland have been identified for transfer to Corpus Christi. Some have been boxed and others have already been shipped.

Question. How can New Cumberland perform depot maintenance activities without essential items of equipment?

Answer. No items essential to accomplishing the workload programmed for NCAD were shipped to CCAD, nor will any items be shipped which are necessary to support the NCAD workload. Items of equipment are boxed and stored to prevent pilferage.

Question. How can you spend appropriated funds for moving this equipment and comply with the Congressional guidance?

Answer. Congress did not prevent the expenditure of funds for equipment transfer nor has the Army requested any additional funds for this transfer. The Army does have responsibility to maintain fleet readiness and a management obligation to ensure that the required programs are accomplished.

The current maintenance facility is scheduled to be razed during the fiscal year 1985–86 time frame.

Question. What does the Army plan to construct in the area created by the demolition?

Answer. On the drawing board is an expanded modern facility for a supply distribution center to support the European Theater and the eastern coast military population. It is unlikely that the properly sized center could be constructed with the maintenance facility still there.

Question. If the maintenance facility continues at New Cumberland, would there be any adverse impact on the Army's supply mission since New Cumberland is the major resupply point for all of Europe and the Middle East?

Answer. Yes, the projected supply workload expansion will not fit into the existing land facility. Either major shipment delays would occur or supplies would have to be shipped from other, more costly locations. The Army is making its depot system into centers of technical excellence. NCAD would be the supply distribution center.

Question. If the Army expands and modernizes the supply mission at New Cumberland, how many additional people would be employed?

Answer. The final number cannot be determined at this time; however, based on GSA projections, as well as the Army's requirement, an increase of 150 would not be overstated. This supply expansion can only take place if there is room to expand on the existing land boundaries.

Question. Part of the Army's plan to disestablish the maintenance facility included contracting out the modernization of the CH-47 to Boeing Vertol. Our investigative staff has reported that it costs over $200,000 more per helicopter for Boeing Vertol to do the work than it would cost to do it in-house at the New Cumberland Depot.

Why is it so much more expensive?

Answer. It is not clear where the $200,000 difference came from as reported. However, economic analysis shows that when you consider the total program, the method the Army selected for the modernization program is more cost effective. Our analysis shows that this differential is closer to $100,000 and would in all likelihood disappear as production increases.

Question. Could any of the contract work be brought back inhouse?

Answer. To bring the CH-47 into NCAD, overhaul it and return it to the fleet, then at some later date bring the same aircraft into Boeing-Vertol for modernization would increase the total fleet readiness costs and does not make good economic sense.

SHIPMENT OF EQUIPMENT TO CORPUS CHRISTI

Question: Corpus Christi Army Depot has identified about 350 pieces of equipment and tools at New Cumberland Army Depot that are essential items to be moved to Corpus Christi in the Army's realignment plans between these two depots. According to Army officials at Corpus Christi, these particular items are needed there to accomplish the CH-47 and other aircraft maintenance workload proposed to be transferred from New Cumberland to Corpus Christi. In addition, hundreds of additional "excess and miscellaneous items" have been identified at New Cumberland that could "possibly be used" by Corpus Christi when all of the aircraft maintenance programs are transferred. This added equipment totals over 750 pieces.

In March and May 1982, two shipments of equipment containing 97 pieces of the stated essential items were sent from New Cumberland to Corpus Christi. Acquisition cost of this equipment is $288,396. These pieces range in type and cost from a test stand valued at $46,000 to hole bearing sets valued at $51 each. The 97 pieces are either installed or in the process of being installed at the Corpus Christi Army Depot. In addition, another 50 pieces, valued at $494,410, have been tagged for shipment at New Cumberland. According to Army officials, scheduled shipping dates for this equipment are during July, September and October, 1982. No shipping dates or total valuation have been placed on the miscellaneous items of equipment.

According to information furnished by Army officials at the New Cumberland and Corpus Christi Army Depots, expenses related to 4 trips Corpus Christi personnel made to New Cumberland to identify the above equipment totalled $82,000. Also, the two equipment shipments (in March and May 1982) cost $10,961 in shipping expenses.

In view of the fact that the Congress has not provided funding for the Army's proposed consolidation of CH-47 aircraft maintenance at Corpus Christi and has instructed that depot level maintenace activity be continued at New Cumberland through fiscal year 1982.

What funding has been used by the Army to move equipment from New Cumberland to Corpus Christi and pay expenses of personnel involved in this equipment move?

Answer. Our review shows that the Army has expended $12,000 for TDY and $9,500 for transportation. OMA funding was utilized, P-7M for personnel and P-7 2nd Destination Transportation for movement of the equipment.

Question. How can depot level maintenance for CH-47's continue at New Cumberland through fiscal year 1982 with essential items of equipment being removed during this fiscal year?

Answer. No essential items were removed or will be removed to support the fiscal year 1982 program.

Question. Explain the rationale and method of identifying the over 750 pieces of miscellaneous tools and equipment at New Cumberland that could "possibly be used at Corpus Christi?"

Answer. The work order authorizations transferred to Corpus Christi were reviewed for equipment required to accomplish this workload. The items which Corpus Christi did not have or were already in use at Corpus Christi on other requirements were identified for shipment to Corpus Christi from New Cumberland. The final identification of all tools and equipment has not been made for the exact number of items to be shipped.

Question. Will this not duplicate equipment already on hand at Corpus Christi?

MAN-HOUR WORKLOAD

Question: Shortly before the end of fiscal year 1981 the Army assigned an additional 197,000 aircraft maintenance man-hours to New Cumberland Army Depot (NCAD), creating a large number of man-hours that had to be carried into fiscal year 1982 as unfinished work. During fiscal year 1982 New Cumberland was workloaded by two offices in the same Army agency, one of which was a special project. Early in fiscal year 1982 workload beyond a 12 month capacity had to be shifted to Corpus Christi Army Depot (CCAD) to comply with the September 30 date stated in the Army's proposed consolidation plan. This resulted in a transfer of function, to Corpus Christi, and significant loss of skills and onboard strength through normal attrition at New Cumberland. An impact on New Cumberland's capability to complete the remaining workload resulted. The Army in turn transferred initially 93,000 manhours and, as of May 1982, had planned 155,000 man-hours from New Cumberland to Corpus Christi.

It was determined that the first of five scheduled CH-47's have been inducted for depot maintenance for repair and return, at Corpus Christi. It was flown there from Fort Campbell, Kentucky. The work order for this aircraft was 1 year old and as a result, the repairs required were more extensive.

The House Appropriations Committee Defense Subcommittee Report, dated November 1981, contained the following: "The Committee has not provided funding to transfer personnel from the helicopter maintenance program at New Cumberland Army Depot. The committee recommends that all such maintenance activity be continued at New Cumberland Army Depot through fiscal year 1982." The final language in the Appropriation Act was: "The conferees agree that the Army shall continue the maintenance as specified in the House Report."

Answer. No. Only items of equipment which CCAD does not have and will require will be shipped.

Question. Why were the 197,000 man-hours workloaded into New Cumberland so late in fiscal year 1981?

Answer. Workload is programed into the prime depot as it becomes known. Any workload is programed into the prime depot as it becomes known. Any workload programed into NCAD was in accordance with their capabilities and capacity. There was no appropriations act language to affect this realignment. We are, however, complying with the conference report and will continue to do so.

Question. Exactly how many man-hours have been transferred from New Cumberland to Corpus Christi since October 1981?

Answer. About 155,000 planned hours are now on the books for CCAD. If the fleet is not to be grounded, these hours must be accomplished. There has been no transfer of function. In addition, there was sufficient workload programed into NCAD for all skills through fiscal year 1982.

Question. How many employees at New Cumberland voluntarily separated/retired as a result of being notified of the transfer of function to Corpus Christi?

Answer. None. However, approximately 65 employees have found other federal positions either on or off the installation.

Question. How many employees at New Cumberland have been transferred from New Cumberland to Corpus Christi?

Answer. One employee has voluntarily transferred to CCAD for a promotion. There is no indication that this was directly related to workload changes.

Question. How many employees have been hired at Corpus Christi to assume the workload from New Cumberland since October 1, 1981?

Answer. Eighty-eight employees have been hired to support the increased workload.

Question. Why was the CH-47 inducted at Corpus Christi?

Answer. NCAD could not accomplish the work on the CH-47 during fiscal year 1982. The aircraft was required for training purposes; therefore, it was decided to have CCAD do the work with NCAD assistance.

ESTIMATING WORKLOAD

Question. The amount of aircraft maintenance work (expressed as "man-hours") expected to be required of a facility such as New Cumberland Army Depot (NCAD) or Corpus Christi Army Depot (CCAD) is the single most important factor in determining how many employees will be needed in an upcoming year. Although future man-hour requirements are obviously based upon estimates as to the amount of work the Army's helicopter fleet will require, the Army has had enough experience maintaining its aircraft to be able to generate a relatively accurate schedule of when each of its helicopters should be routed through the depot maintenance system.

In attempting to determine the quantity of man-hours to be transferred to CCAD from NCAD, however, the Investigative Staff found the opposite to be true. Each of the four commands (TSARCOM, DARCOM, AVRADCOM, DESCOM) which have an influence on the Army aircraft maintenance system produced continually changing and contradictory workload estimates ranging from 241,000 to 471,000 man-hours. The amount of work which was scheduled to be completed at NCAD but which will remain unfinished and needs to be transferred to CCAD if the realignment occurs as planned is also an unknown figure. The absence of firm figures in that area will have an obvious impact on CCAD's ability to absorb the incoming workload.

How many man-hours of aircraft maintenance work will be transferred to CCAD if the realignment occurs as planned?

Answer. The number of man-hours to be transferred to CCAD is 307,000 hours.

Question. Why is the Army's management system not geared to provide each of the cognizant commands with a common data base from which workload/man-hour projections can be made?

Answer. The Army's management system does provide for a common basis for calculating depot maintenance requirements. Each of the commodity commands participates in the requirements determination process which is intended to identify total workload requirements. Once those requirements are identified the Depot System Command, DESCOM, in conjunction with the applicable commodity command, determines that portion of the workload which can be accomplished in our organic facilities.

Manhour projections are made on the basis of the type of equipment and scope of work. Each commodity command is provided with the estimate of man-hours to be expended on its equipment.

Question. How much workload (in man-hours) will remain at NCAD, unfinished, if the realignment occurs as scheduled? How much will it cost to realign it to CCAD? How can CCAD process that workload in an orderly manner if sufficient advance notice is not given to allow them to hire extra employees to handle it?

Answer. The projection at this time is that approximately 25,000 man-hours will not be finished. This is based on on-time receipt of repair parts as well as the attrition rate. This unfinished workload is basically a result of long lead time repair items being received. It is estimated that the transportation costs would be $4,500. This workload is included in NCAD projections and carryover figures, and CCAD will increase its staff to accomplish the 307,000 man-hours. This procedure is part of the planning that goes into accomplishing the proposed action.

IMPACT ON EMPLOYEES

Question. As of April 14, 1982, New Cumberland Army Depot personnel officials estimated that the transfer of the aircraft maintenance facility to Corpus Christi Army Depot would result in the elimination of 726 authorized civilian spaces of which 439 were occupied. The proposed realignment would not affect 62 New Cumberland Army Depot employees who are currently assigned to the whirl tower and air delivery elements. Out of those 439 employees who would be affected by the proposed realignment, 155 were identified as having the right to transfer along with the aircraft maintenance mission to Corpus Christi Army Depot. Those positions were identified by matching jobs currently performed by New Cumberland Army Depot employees with skills that will be needed at Corpus Christi Army Depot and are either absent or in short supply there. The remainder of the occupied positions (284) at New Cumberland Army Depot would no longer be needed. Only 41 out of the 155 employees who were eligible to follow the function have elected to do so.

The best estimate of what will happen to New Cumberland Army Depot air maintenance employees (excluding air delivery and whirl tower) when the realignment occurs is as follows:

249 separations because jobs eliminated both at New Cumberland Army Depot and Corpus Christi Army Depot (135) or employees re-

fused to transfer with their job function to Corpus Christi Army Depot (114);

39 retirements precipitated by realignment;

96 attrition;

41 employees chose to transfer to Corpus Christi Army Depot; and

14 employees have already been accepted for employment by other federal agencies. Total, 439.

New Cumberland Army Depot personnel officials estimate that all 249 of those separated will apply for unemployment compensation and that 200 will also qualify for severance pay. It should be noted that the above figure includes only those full time, permanent employees who are directly employed in the air maintenance mission. An estimated 57 New Cumberland Army Depot "overhead" employees (e.g., security personnel, building maintenance employees, etc.) will also be separated as will 27 "temporary" employees who were employed in the aircraft maintenance mission. New Cumberland Army Depot officials anticipate that all 57 of the overhead employees will be separated through attrition by September 30, 1983, at no cost to the Government and that the 27 temporary employees will be separated when the realignment occurs with no RIF rights, the single cost to the Government being unemployment benefits.

The 439 full-time employees who will be affected by the realignment represent 14 percent of the encumbered positions at New Cumberland Army Depot, an installation which is dominated by its supply mission.

The New Cumberland Army Depot's Five Year Modernization Plan calls for future construction of $100 million worth of capital improvments to its distribution and supply activities which will displace the buildings that currently house the air maintenance element. The Investigative Staff was unable to determine how many new employees would be hired to staff the complex.

Describe the scope of the planned, expanded supply operation at New Cumberland Army Depot.

Answer. The expanded supply operations affect the supply distribution facility that supports our troops in Europe and on the eastern coast. It is estimated that the total improvements would be over $100 million of which $60 million would be construction and $40 million for equipment. We would estimate that the majority of the money would be expensed in the Harrisburg area. The new facility would house the most modern equipment for distribution processing within DOD.

Question. How many new employees would be required?

Answer. As stated previously, the number could exceed 150 new jobs but would have the capacity for 4,500 in peacetime operations.

Question. How many of these would be hired from the air maintenance employees separated as a result of the realignment?

Answer. All the maintenance employees would be offered jobs to the maximum extent possible. Much would depend on the time the Army has for planning.

Question. How would that change the New Cumberland Army Depot personnel projections for separations (both full-time and part-time, direct and overhead) and for the cost of severance pay, unemployment compensation, cost to the retirement fund and lump sum leave?

Answer. Any change in the projections would have to be based on two assumptions: (a) The maintenance realignment would proceed, and (b) the supply distribution center would be approved. In addition, the fielding of new weapon systems in Europe will continue at a rapid rate. Provided the above were true, 150 of the 249 separated jobs could be placed at the depot in anticipation of the supply increase. This would reduce the following accounts: Severance pay, unemployment compensation, cost to retirement fund, and lump sum leave.

It should be noted that lump sum leave is not an additional cost at industrial funded depots as leave is costed as hours are worked. In addition, if early out approval is obtained, the above accounts might be zero.

Question. If 96 out of the 439 employees have already attrited, are others to resign by October 1, 1982? By March 1, 1983? How will that affect personnel costs (one-time costs) related to the proposed realignment?

Answer. The attrition will continue at NCAD regardless of the realignment proposal. The 96 employees will be attrited by 1 October 1982. This figure was used to calculate one-time costs. The present milestone schedule does not call for employees to be working in maintenance after 1 March 1983.

Question. Have any of the 14 employees who have obtained employment with other federal agencies been required to transfer out of the area in order to do so? If so, at what cost? If the cost is lesser or greater than the estimate provided the Investigative Staff and incorporated under "Transfer costs for civilian employees," provide a new figure.

Answer. Of the 14 employees who have obtained other federal employment, one transferred out of the area. The estimated cost for the one employee is $19,325.

COST OF TRANSFERS

Question. The following three schedules summarize the financial data that was presented to or developed by the Investigative Staff relating to: (1) one time costs involved in realigning the air maintenance mission from New Cumberland Army Depot to Corpus Christi Army Depot; (2) annual recurring costs related to the assumption of what would have been New Cumberland's workload being realigned to both Corpus Christi Army Depot and the Boeing-Vertol Corporation; and (3) annual recurring savings experienced at New Cumberland Army Depot as a result of removing most of its air maintenance mission. The Investigative Staff determined that the net annual recurring cost of realigning the air maintenance mission will be $12,322,605. A substantial part ($9,982,000) of that figure is due to what the Investigative Staff calculates to be the cost of contracting CH-47 overhaul work to Boeing-Vertol as part of a contract to completely modernize the Army's CH-47 helicopter fleet. That overhaul work would normally have been performed, in part, at New Cumberland Army Depot and should properly be considered an annual recurring cost generated by the realigment. Data obtained from Boeing-Vertol and the Army reflects the per unit overhaul cost at Boeing-Vertol to be $217,000 higher than the average per unit New Cumberland Army Depot cost. An annual average of 46 overhauled and modernized CH-47's over the next five years will be produced at Boeing-Vertol (46 x $217,000 = $9,982,000 annual cost for overhaul work).

ONE TIME CLOSING COSTS
AS ESTIMATED BY:

Item	Army	New Cumberland Army Depot	Corpus Christi Army Depot	DESCOM	Investigative Staff
Transfer costs for military personnel	$31,686	$52,784			$55,424
Transfer costs for civilian personnel	1,034,556	1,683,801			1,683,001
Severance pay	3,950,856	769,600			769,600
Recruitment of civilian employees at Corpus Christi Army Depot	142,332		16,332		16,332
On the job training at Corpus Christi Army Depot	[illegible],944		76,133		76,133
Productivity lag at Corpus Christi Army Depot	1,043,172		692,980		692,980
TDY Travel	16,000			71,000	71,000
Equipment-packing, crating, transportation, removal, installation	1,043,509	1,935,938			3,009,447
Construction/equipment costs	1,518,273	2,600,000	500,000/ 2,500,000	4,600,000	2,600,000
Cost to retirement fund		910,437			1,014,487
Lump sum leave		511,979			529,435
Unemployment compensation		1,845,090			2,003,040
New Cumberland Army Depot - Close down, clean up costs	332,100				332,100
Cost of manhours expended by Corpus Christi Army Depot to date on realignment				56,096	56,096
Total	$10,091,857				$12,909,875

ANNUAL RECURRING COSTS AS ESTIMATED BY:

Item	Army	Corpus Christi Army Depot	New Cumberland Army Depot	Investigative Staff
Payroll and "Other Costs" for New Cumberland Army Depot Mission at Corpus Christi Army Depot	$11,863,781	$6,121,161.50		$14,286,751
Net cost increase of contracting CH-47 overhaul work to Boeing-Vertol over the average cost of overhaul work at NCAD				9,982,000
TOTAL	$11,863,781	$6,121,161.50		$24,268,751

Item	ANNUAL RECURRING SAVINGS AS ESTIMATED BY: Army	New Cumberland Army Depot	Investigative Staff
Elimination of air delivery mission at New Cumberland Army Depot ------------------	$16,014,243	$6,227,987	$11,946,146

NOTE: The Army computed its annual recurring savings by deducting the total FY 1982 cost of providing salaries and support ("Other Costs") for those employees involved in the air maintenance function ($11,863,781) from the total amount of money funded for the New Cumberland Army Depot air maintenance mission ($27,878,024). The New Cumberland Army figure includes only the cost of salaries for those New Cumberland Army Depot employees identified as working for that part of the air maintenance mission which will transfer to Corpus Christi Army Depot. The Investigative Staff figure was arrived at by adding support or "Other Costs" to the cost of salaries for air maintenance employees identified by New Cumberland Army officials.

NET ANNUAL RECURRING COSTS

$24,268,751	(Annual recurring cost)
11,946,146	(Annual recurring savings)
$12,322,605	(Net recurring cost)
vs	
$12,909,875	(One time closing cost)

STATEMENT OF DIFFERENCE

The Investigative Staff arrived at a figure of $12,909,875 as a One Time Closing Cost for realigning the New Cumberland Army Depot (NCAD) aircraft maintenance mission. The Army estimated those same costs to be $10,091,857. The major areas of disagreement were: (1) civilian personnel transfer costs; (2) severance pay; (3) equipment-packing, crating, transportation, removal and installation; and (4) construction/equipment costs. The Investigative Staff computed costs involved in payments to the Civil Service Retirement Fund, and for estimated liability for lump sum leave payments and unemployment compensation, three cost items which the Army completely ignored.

TRANSFER COSTS FOR CIVILIAN PERSONNEL

NCAD Personnel officials calculated the average cost of moving a NCAD employee and his family for four to Corpus Christi Army Depot (CCAD) to be $22,814. The cost of moving a separated NCAD employee to another federal job outside the NCAD commuting area was estimated to be $17,815. A toal cost to move the NCAD estimated 83 employees (41 to CCAD, 42 to other federal employment probably located within 100 miles of NCAD) is estimated to be $1,683,801.

The Army estimated that a total of 73 civilian employees and their families would be moved to CCAD or other federal agencies at an average cost of $14,172 for a total of $1,034,556.

SEVERANCE PAY

The amount of severance pay a separated employee is entitled to is determined by the length of service, weekly salary and age.

NCAD personnel officials estimated that 200 separated employees would qualify for severance pay. Based on NCAD's estimate that the average separated employee who qualifies for severance pay will be 38 years old, have 10 years of federal service, and average a weekly salary of $384.80, the government's liability for severance pay would be $769,600.

The Army's estimate of severance pay liability assumes the average separated NCAD employee will be 42 years of age, have 20 years federal service and have a weekly salary of $469.00. Any qualified employee over 40 years of age receives an additional increment of severance pay. The Army set the government's liability for severance pay at $3,950,856.

EQUIPMENT PACKING, CRATING, TRANSPORTATION, REMOVAL AND INSTALLATION

The Army estimated that moving all plant and mission equipment to CCAD would cost $1,043,509. An analysis of their figures indicated that they included only the cost for moving plant equipment and omitted mission equipment. NCAD officials estimated mission equipment could be moved to CCAD at a cost of $1,935,938. The Investigative Staff combined the figures to include moving both plant and mission equipment at a cost of $3.009,447.

CONSTRUCTION/EQUIPMENT COSTS

The Army estimated that moving the whirl tower to CCAD would cost approximately $1,518,273 in construction and transportation costs. Based upon engineering reports, NCAD estimated the cost to move and install the whirl tower at CCAD to be $2,600,000.

COST TO RETIREMENT FUND, LUMP SUM LEAVE, UNEMPLOYMENT COMPENSATION

The Investigative Staff determined the realignment action would result in a liability to the government of $1,014,487 for payments to the Civil Service Retirement Fund, $529,435 to pay for lump sum leave and $2,003,040 for payments to the unemployment compensation fund.

How does the Army explain the $8,000 difference between its estimated cost per move and that produced by NCAD personnel officials?

Answer. There were two primary differences in the development of the individual rate: (a) The daily per diem rate was not increased to the maximum for that location, and (b) the cost to buy and sell a home was not costed at the maximum. These two factors caused the $8,000 difference per employee.

It should be noted that the methodology used by the Army to cost depot realignment actions has been validated and accepted by the Army Audit Agency and General Accounting Office. In addition, in our after action reports the one-time costs usually are lower than projected in the study. Many of the same one-time costs were provided by the different Army elements affected and varied because not everyone had total understanding of the study. The Army's estimate of $10.1 million takes into consideration all the known factors as well as prior experience. The rationale used to arrive at that figure is consistent with accepted costing procedures.

Question. Why does the Army use the same figure ($14,172) as the estimated cost to move a NCAD employee both to CCAD and also to other federal jobs? NCAD officials estimate other federal jobs will be located within 100 miles of NCAD.

Answer. Since the employees are free to move anywhere in the United States, the Army has used the figure of 1,500 miles to more accurately project costs. The difference between the 1,500-mile factor and CCAD at 1,687 miles would not make any substantial cost difference. The NCAD projection of 100 miles is based on a survey of individual employees and their regional ties.

Question. Does the Army agree with NCAD's estimate that 41 NCAD employees will transfer to CCAD? If so, how will that change the Army's cost estimate?

Answer. NCAD's projection of 41 employees accepting transfer to CCAD is based on a survey taken at a given time. This number may increase or decrease when the actual transfer takes place. The Army's projection was 31 employees would accept transfer. If the higher number becomes the actual, then this category of cost would increase with an offsetting decreasing cost somewhere else. Elements of one-time personnel costs cannot be taken in isolation.

Question. Explain the basis for the Army's estimate that other federal government liability for severance pay would be $3,950,856 based upon an assumption that the average separated NCAD employee will be 42 years of age, have 20 years federal service. Does the Army feel that NCAD's estimate of $769,600 liability for severance pay is incorrect? Explain the differences.

Answer. The Army does not feel that NCAD estimate for severance pay is incorrect. All elements of one-time personnel costs are based on the personnel distribution; different time frames will result in a pattern change. The Army's estimate was based on data reported to HQ DARCOM and did not factor in local experience. NCAD believed that the more senior employees would be placed thereby reducing the average years of service, age, and weekly salary rate.

Question. Why did the Army's estimate of $1,043,509 to move all plant and mission equipment from NCAD to CCAD include only the costs involved in moving plant equipment? What will be the complete cost for packing, crating, transportation, removal and installation of all plant and mission equipment going from NCAD to CCAD?

Answer. The Army's cost included the removal, packing, crating, transportation, and installation of all plant equipment on the property book. The factors used to estimate these one-time costs are based on prior experience. The Army's plan was that the mission equipment or items for repair would be completed at NCAD and returned to stock or the user. We do not consider this a cost to realign but would have occurred regardless of this action. If all items are not repaired, an additional one-time cost of $10,000 might be expensed.

Question. Exactly what will it cost the government to move the complete whirl tower including each and every item currently attached to it or, if not attached, in any way required to allow it to operate efficiently? Include all costs at CCAD involved in selecting, purchasing and preparing the receiving site including the cost to design and construct whatever foundation and other facilities will be needed to convert the component parts being shipped to CCAD from NCAD into a functional whirl tower.

Answer. The cost to move the whirl tower from NCAD to CCAD is $1.52 million as submitted to the survey and investigation team. However, there are other components that would have to be shipped if the whirl tower is to handle all blades coming into the system, totaling approximately $750,000. The Army does not consider these to be related to this realignment.

Question. Why did the Army not include in its estimate of one-time closing costs government liability for payments to the Civil Service Retirement Fund for those employees (39) who are estimated to retire as a direct result of the proposed realignment?

Answer. The Army uses a standard costing methodology for one-time costs which projects the costs the Army must bear. An increased liability to the retirement fund would be offset Government-wide by a decrease in payroll costs. An Army Audit Agency opinion stated these as offsetting costs.

Question. Why did the Army omit estimated liability for payments to separated employees for accrued or lump sum leave?

Answer. Under Army Industrial Fund cost accounting procedures, leave accrues as hours are worked. Therefore, an additional outlay of money is not required. Stated a different way, as an employee works an hour, a percentage of the hourly rate is applied for leave benefits; in this way dollars are earned for leave payment.

Question. Why did the Army omit any reference to liability for unemployment compensation payments to separated employees?

Answer. In the use of the Army's standard costing methodology, we do not cost for items outside of DOD. The procedures do not call for full government costing. DARCOM recognizes that employees may apply for unemployment compensation.

AIR DELIVERY MISSION

Question. The Army's claimed $16,014,243 savings resulting from the move to Corpus Christi Army Depot (CCAD) includes $1,040,224 to support the air delivery mission which the Army intends to leave at New Cumberland Army Depot (NCAD) permanently. Army officials advised that the cost of maintaining the air delivery mission was included in projected annual recurring savings along with the other NCAD air maintenance elements which were actually going to CCAD because the funding program for all air maintenance activities at NCAD was to be administratively transferred to CCAD.

Is it accurate to categorize the NCAD air delivery element as one of the missions involved in the realignment to CCAD (resulting in an annual recurring cost to CCAD) when it is to remain at NCAD?

Answer. The Army did not claim this figure as a savings or as an annual recurring cost to CCAD. The Army started with the cost to accomplish the mission at NCAD and then subtracted the annual cost to accomplish the air delivery mission from that figure. The Army stated that this $1.04 million remained at NCAD to support the air delivery mission.

CH-47 MODERNIZATION

Question. The CH-47D Modernization Program is basically the remanufacturing of CH-47A, B and C models to improve: reliability and maintainability, flight safety, payload capability, and survivability, as well as extended the service life of the aircraft. This program represents a significant cost offset ($217,500 per aircraft) to the Army's claimed annual recurring savings in its proposed aircraft depot maintenance realignment plan. The Boeing Vertol Company is under contract with the Army to perform the modernization program. One phase of the remanufacturing process, the Pre-Modification phase, comprises 86.5 percent of an overhaul, work normally done during high time depot level maintenance by New Cumberland Army Depot, and an effort that supposedly eliminates the requirement for overhaul of the CH-47. Additionally, any work performed by the contractor that is not within the scope of, and priced into, the basic contract, is considered "over and above." Over and above efforts are negotiated individually between the Army and the contractor.

What is the Army doing to minimize contractor costs, especially in areas where the contractor is performing Army operating unit and intermediate level maintenance? (At contractor rates of $84 per hour).

Answer. The modernization program of the CH-47 aircraft being accomplished at Boeing-Vertol is under cost and ahead of schedule. Joint reviews of the costs against each program schedule work area are conducted to control costs. Also, the Army staff at Boeing-Vertol is in daily contact with the contractor to review total program accomplishments. Costs will decrease as the program approaches full production.

Question. Is there any Army pre-Modernization Program induction screening effort for the purpose of contractor cost avoidance?

Answer. The Army determines what aircraft will be inducted into the program and in what sequence. Aircraft are inducted in accordance with repair requirements, model type and contract specifications. The Army does no organic pre-modernization analysis as this would duplicate contract effort and would not be cost-effective.

Question. How much CH-47 depot maintenance: overhaul, repair and return is scheduled for the next 3 years, in manhours and dollars?

Answer. There is no CH-47 overhaul scheduled for the depots in the next 3 years. However, for depot inspection and repair there is a projection of approximately 80,000 manhours and $5 million.

Question. When will the new CH-47D require depot overhaul?

Answer. It is projected that the earliest the aircraft would be scheduled for regular depot maintenance is 1988.

Question. Are contractor costs competitive with New Cumberland Army Depot or Corpus Christi Army Depot costs?

Answer. We have no organic depot experience on the CH-47D model. No organic capability is currently planned. Therefore, not even a depot pilot program is scheduled. On the basis of experience with other systems and equipment, contract maintenance costs generally are higher than organic depot costs.

ARMY'S ESTIMATE OF SAVINGS

Question. The Army estimates that realigning the aircraft maintenance mission to Corpus Christi Army Depot (CCAD) will result in an annual recurring savings of $16,014,243 (before offsetting it with (1) the annual recurring cost of performing New Cumberland Army Depot's (NCAD) mission at CCAD and (2) contractor work by Boeing-Vertol). That figure was arrived at by deducting the total fiscal year 1982 programmed cost of providing salaries and support ("other costs") for those employees involved in the air maintenance function ($11,863,781) from the total amount of money funded for the entire NCAD air maintenance function ($27,878,024).

Provide a line-item breakdown explaining how the Army would have expended the $16,014,243 had the realignment not occurred.

Answer. Had the realignment not occurred, the Army would spend $8.2 million for annual salaries and $7.8 million for parts, overhead, and other costs.

Question. If the realignment does not occur as planned, what will be the disposition of the $16,014,243?

Answer. The Army will continue to operate NCAD at an annual cost of $16 million. Continuation of the mission would have been a decision made without regard to obtaining maximum production or efficiency.

REDISTRIBUTION OF WORKLOAD

Question. The proposed realignment of the new Cumberland Army Depot CH-47 as well as some other aircraft maintenance functions will result in the elimination of 726 spaces, of which 439 were occupied in April, 1982.

The Army plans to redistribute the workload between Corpus Christi Army Depot and contract work being done by Boeing-Vertol Corporation in Ridley Park, Pennsylvania.

If the proposed realignment does not occur as planned, and considering the fact that CH-47 overhaul work has been contracted out to Boeing-Vertol as part of the CH-47 modernization project, how many manhours of aircraft maintenance work would be available for New Cumberland Army Depot? How many employees would that manhour requirement translate into? How many employees would then be separated?

Answer. Army intends to comply with Congressional intent expressed in fiscal year 1982 Appropriations Bill and will workload NCAD using current workforce in fiscal year 1982. The remaining workload through calendar year 1982 is approximately 240,000 manhours. There are 325 direct maintenance employees at NCAD. No employees will be separated.

Question. If the realignment to Corpus Christi Army Depot is delayed to a future, indefinite date, describe how the Army intends to plan workloading requirements for New Cumberland Army Depot for fiscal year 1983 and fiscal year 1984. At what percentage of full utilization of the New Cumberland Army Depot air maintenance facility would these figures represent?

Answer. The Depot Maintenance workload will be based upon requirements. If realignment to Corpus Christi Army Depot is delayed to the indefinite future, using the current workface and maintenance workload requirements for fiscal years 1983 and 1984, the utilization of aircraft maintenance capacity at NCAD will be about 33 percent.

REMAINING AIRCRAFT MAINTENANCE FUNCTION

Question. The New Cumberland Army Depot contains 193 buildings with 5.5 million square feet (SF) of covered space. Most of these buildings are the usual warehouse type structures. The depot's aircraft maintenance mission uses 498,258 SF of this space, contained in 14 buildings. These 14 buildings are valued at an acquisition cost of $3.7 million. The Army's plans are still incomplete as to what use is to be made of vacated space in the 14 buildings if the aircraft maintenance mission is moved out of them, although it is planned for the depot's supply mission to expand into four (267,207 SF) of the buildings.

Army officials have advised that the current maintenance facility is scheduled to be razed during the fiscal year 1985–1986 time frame to make way for a new complex to expand and modernize the depot's supply mission. Cost, in fiscal year 1981 dollars, for the new complex is estimated at $96,973,000. The Army has not identified either the location or estimated cost for any new maintenance facility.

How will the Army use the 14 aircraft maintenance buildings if they are vacated?

Answer. These facilities will be used to house the increased supply distribution mission.

Question. How will the remaining maintenance mission (both aircraft and other) functions be performed at the depot if the buildings housing them are destroyed?

Answer. The facility housing the air delivery will not be destroyed. This mission will continue at NCAD.

Question. What are the Army's plans for a replacement maintenance facility at the New Cumberland Depot?

Answer. There are none.

TRAINING OF CORPUS CHRISTI EMPLOYEES

Question. Corpus Christi Army Depot (CCAD) has identified 288 employees as needed to assume its portion of the New Cumberland Army Depot (NCAD) maintenance mission. A total of 88 of those employees have already been hired as part of a contingent of 205 overhires who have been authorized at CCAD in fiscal year 1982 to handle a depot-wide increased workload. Because 41 NCAD employees have indicated they will transfer to CCAD when the realignment occurs, CCAD personnel officials calculate they must hire an additional 159 new employees to meet the increased workload generated from NCAD.

CCAD officials estimate that the learning curve required to bring the 159 new hires up to 100 percent efficiency will consume 43 weeks during which time a CCAD journeyman will expend one hour per week away from his productive job in order to tutor the new employee. CCAD estimates the average maintenance journeyman earns $11.13 per hour. Total cost to train the 159 new employees would be $76,095.81 (159 employees × 43 hours × $11.14 hourly rate = $76,095.81.) CCAD did not include the cost of training the 88 employees who have already been hired in its one time cost figure.

The Army (DARCOM) estimates that the proposed realignment will require 104 new employees to be trained at CCAD. The Army plans to expend 10 hours per month on the job training (at $13.94 per hour of CCAD journeyman time) for each new employee for a period of 6 months at a total cost of $86,985.60 (104 new employees × 60 hours × $13.94 hourly rate = $86,985.60).

Why does the Army estimate that the learning curve required to bring new employees at CCAD to 100 percent efficiency will require 6 months as opposed to the 10-month or 43-week estimate by CCAD officials?

Answer. The time a journeyman must spend in training and the time to tutor a new employee is approximately the same. The Army's estimate was based on more tutoring time in a shorter time period, while CCAD uses a longer tutoring time. Either method is acceptable.

Question. Which estimate of new hires required at CCAD to assume the increased workload is correct—the 159 projected by

CCAD officials or the 104 estimated by the Army? Provide the basis for deciding which estimate is correct.

Answer. The 104 new employees estimate requiring on-the-job training is correct. The manhours which will be transferred to CCAD to assume the workload equates to 205. The Army estimated 31 would transfer, and of the 174 new hires, 60 percent would require tutoring by a journeyman.

Question. Assuming that CCAD's estimate of 288 employees required to assume the NCAD workload is correct, should not the expense involved in training the 88 fiscal year "overhires" who were hired in anticipation of receiving the NCAD workload be charged to One Time Closing Costs?

Answer. In the Army's estimate these employees are included since only a given amount of workload will be transferred. The total amount of workload to be transferred is 307,000 manhours; personnel will be hired at CCAD to accomplish this amount regardless if hired in fiscal year 1982 or fiscal year 1983. Earlier hiring will provide for a smoother transition.

Question. Which estimate of the CCAD journeyman-trainer's hourly rate is correct—the Army's $13.94/hour or CCAD's $11.13? Explain the difference.

Answer. The Army's estimate of $13.94/hour is based on a total gross salary figure divided by a projected manyear number to arrive at a yearly salary, then divided by 2080 hours. CCAD is an actual hourly rate of journeyman-trainees. Their rate would be more accurate.

Question. Which estimate of the number of hours needed to train a new employee is correct—the Army's 60-hour projection or CCAD's estimate of 43 hours?

Answer. Both of these figures are relatively the same and are comparable. The Army's estimate is more general and would encompass more different types of activities. CCAD estimate is more directly related to their need, knowlege of the skills in the area, and matched to the programs.

CORPUS CHRISTI WORKLOAD

Question. Corpus Christi Army Depot (CCAD) personnel officials advised that they anticipated having no difficulty in hiring a sufficient number of new employees to process the workload presently handled by New Cumberland Army Depot (NCAD). Out of the 288 employees estimated to be necessary to handle the incoming work, they advised that only 4 positions (employees) would be difficult to fill: (1) metalurgist; (2) mechanical engineer; (3) industrial engineer; and (4) instrument mechanic. Personnel officials agreed they could handle the new work during the same period of time that an increased workload is expected from other Army sources such as the Blackhawk helicopter fleet.

How many manhours of new work does CCAD expect from sources other than NCAD during fiscal year 1983 and fiscal year 1984? How many new employees must be hired to handle that workload? Provide data as to the available labor base in the area around Corpus Christi to support the claim that there would be no difficulty in recruiting sufficient numbers of new employees to meet the increased workload.

Answer. The projected increase for fiscal year 1983 is approximately 400,000 manhours and in fiscal year 1984 approximately 850,000 man-hours over the fiscal year 1982 planned workload. These planned man-hours are as of April 1982. There would have to be about 210 positions in fiscal year 1983 and 335 positions in fiscal year 1984 over the fiscal year 1982 authorization. According to a survey by the Texas Employment Commission, many of the skills are available in the Corpus Christi area. Many of the new hires would not require a highly skilled background. There is no shortage of personnel in the local region for these types of positions.

Question. Assuming the new employee requirement can be met satisfactorily, describe how the NCAD workload and the new workload from other Army sources will be physically distributed throughout the CCAD complex. Will there be any plant space or test/repair equipment scheduling problems?

Answer. CCAD has the peacetime capacity to handle the NCAD workload. Additional workload would be assigned to CCAD based on the capability of available equipment and facilities to handle the work.

Answer. CCAD has the peacetime capacity to handle this level of workoad. There will be no plant space scheduling problem. Once the equipment is shipped from NCAD to support the transferred workload, there will be no test/repair equipment problems for these items. Additional increased workload at CCAD is based on the availability of equipment and facilities. This amount of workload would put no strain on CCAD, provided the resources are made available.

Question. Will the NCAD workload and/or the other new sources of work cause CCAD to utilize more overtime (in addition to the manhours generated by the newly hired employees) to fulfill its mission? If so, how much overtime and at what cost for the NCAD mission?

Answer. If the resources are provided in proportion to the workload, CCAD would not utilize more overtime. However, high priority projects could increase overtime requirements. Overtime is basically generated because of mission priorities rather than workload volume. There would be no overtime cost for the NCAD mission except for high priority projects.

ROTARY WING TEST FACILITY

The rotary wing test facility (whirl tower) located at New Cumberland, the prime overhaul facility for Army helicopter rotor blades (including the CH-47), has not been included in the Army's proposed consolidation of aircraft depot maintenance at this time. The Army has stated that it will determine the disposition of the New Cumberland whirl tower at a later date. It was noted that Corpus Christi Army Depot has stated a requirement for a new whirl tower since 1979. The purpose of a whirl tower is to provide the capability for aerodynamic testing of rotor blade assemblies that require a dynamic type of blade balances subsequent to overhaul or repair.

Aside from the incomplete plan, one issue concerning the whirl tower is the cost estimates that range from $4.6 million for a new whirl tower for Corpus Christi Army Depot to other estimates ranging from $1.5 to $2.6 million for moving the New Cumberland whirl tower to Corpus Christi.

Question. When will the final disposition of the whirl tower be decided?

Answer. The Army plans to move the whirl tower at NCAD by March 1984. This will depend on the completion of minor construction at CCAD.

Question. Does the Army plan to install a whirl tower at Corpus Christi?

Answer. Yes. The facility will be removed from NCAD and relocated at CCAD. CCAD is to become the center for technical excellence for aircraft.

Question. What are the actual costs for a new whirl tower?

Answer. It is $4.6 million for a new whirl tower.

Question. What are the actual costs for moving the existing whirl tower from New Cumberland to Corpus Christi?

Answer. It will cost $1.5 million to move the existing whirl tower.

Question. Why were these costs not included in the realignment one-time closing costs?

Answer. These costs have been included in the latest one-time cost figures provided to the investigative staff.

WHIRL TOWER MANNING

Question. Army officials advised that the workload projected for the New Cumberland Army whirl tower requires 33 employees in fiscal year 1983 whose salaries and associated "other costs" ($1,445,467) were incorporated in the Army's claimed annual recurring savings at New Cumberland Army Depot and annual recurring costs at Corpus Christi Army Depot. Subsequent to that, the Investigative Staff was advised that manpower projections for the New Cumberland Army Depot whirl tower had increased to where an estimated 56 employees would be needed to meet the requirement at an increased cost of $2,481,088.

Is the above projection for manpower required in fiscal year 1983 at the New Cumberland Army Depot whirl tower accurate? If not, what is the figure? In any case, how will the new figure impact on the Army's claimed savings/one time costs?

Answer. The Army did not claim the $1.45 million as an annual recurring savings at NCAD, nor was it claimed as annual recurring costs at NCAD. That amount of dollars was shown as remaining at NCAD to support the whirl tower facility. The workload figure for blades is an estimate for fiscal year 1983 and may not actually occur.

The Army will continue the blade program at NCAD until the tower is operational at CCAD. At this time it is projected that 55 employees are required. The Army would temporarily reduce its savings for fiscal year 1983 by $963,000. The projection in the outyears is closer to what is presently being accomplished.

Question. If the above figure is accurate, is it being used by all of the commands who have an influence on workloading at New Cumberland Army Depot? If so, and in light of the continually changing and contradictory workload figures that were provided the investigative staff, how do you know?

Answer. Yes. Only one command determines the number of blade associated items to be repaired for a fiscal year. This number is converted to manhours by DESCOM and workloaded into NCAD.

Question. If the above figure (56) is accurate, will the Army hire the necessary new employees from those New Cumberland Army Depot employees who will be RIF'd as a result of the realignment? If so, how will that change all the items under one time cost and annual recurring savings which are related to the number of employees separated (e.g., severance pay, unemployment pay, lump sum leave)?

Answer. The Army would have to increase the planned blade associated staff by approximately 22 positions. Army would retain those employees separated from other maintenance functions. It would have minimal impact on the one-time cost since it was assumed by the Army at the time study was done that the 182 employees would find a job on the installation or in the local commuting area.

CALCULATION OF MANPOWER COSTS

Question. In determining the cost of the proposed realignment to Corpus Christi Army Depot, personnel salary costs were the most significant element in calculating one time closing costs and annual recurring savings. New Cumberland Army Depot personnel officials estimated personnel costs (savings) by multiplying the average pay grade of those employees to be RIF'd by a 25 percent factor which includes the cost to the Government of providing fringe benefits such as retirement, FICA, Government life insurance, health benefit insurance and annual leave. Corpus Christi Army Depot officials estimated personnel costs (expense) by multiplying the average pay wage by 10.8 percent to account for the cost to Government of fringe benefits.

What is the cost to the Government for employee fringe benefits—10.8 percent or 25 percent? Explain why they are calculated differently by each of the two depots in the same command.

Answer. The two percentage factors were used for different purposes and both are correct. The 10.8 percent used by CCAD is the approximate fringe benefit rate used in programing and budgeting Army annual costs. In this situation, a similar percentage would be used for NCAD. The 25 percent factor used by NCAD is a total cost to the government for retirement, as well as the other benefits, and includes a factor for annual leave. This method was used for comparing government costs to industry costs. In this particular action, CCAD is the more accurate percentage to use.

FRAUD IN NAVY OVERHAUL CONTRACTS

Question. In commenting on press reports of fraud and ship overhauls in the San Diego area, the Secretary of the Navy stated that "the last four overhauls we have done here in San Diego overran an average of 80 percent."

What were the findings of the investigations conducted in the San Diego area?

Answer. Several investigations were in progress in San Diego at the time, one of which has been completed. On May 4, 1981, a Federal Grand Jury in San Diego indicted 3 officials of Precision Welding and the President of American Testing Institute for conspiracy for false statements and for fraud in connection with Navy ship repairs under the cognizance of SUPSHIP San Diego. Skill certifications for welders submitted by Precision Welding were fraudulent as were certifications for welding products certified by American Testing Institute.

Precision Welding on December 31, 1981, was suspended from DoD business as was American Testing pending trial. The trial was completed in April, 1982, with the result that certain officials were sentenced to jail terms and fines.

Question. According to a point paper provided by the Navy, it was stated that skill certifications for individual welders were found to be fraudulent and that welding certifications concerning work done under Navy contracts were also fraudulent. According to this point paper "misaligned and defectively welded joints, in the opinion of SUPSHIPS inspectors, were highly susceptible to failure and represented a severe personnel hazard".

Who is paying to correct the defective welds?

Answer. The Navy is paying to correct the defective welds.

Question. Has any effort been made to recoup payments made to firms participating in the fraud?

Answer. The efforts of the U.S. Attorney have been centered on prosecuting the criminal case.

The possibility of civil action to determine the extent of monetary loss and to seek recoupment is being coordinated within NAVSEA legal channels and SUPSHIP San Diego.

On June 1, 1982, the Debarment Suspension Committee decided to advise both companies of debarment proceedings.

Question. Is there the potential that welds done on Navy ships in geographic areas other than San Diego will also be defective?

Answer. The potential always exists that welds done on Navy ships in geographic areas other than San Diego will also be defective. However, the SUPSHIP quality assurance program provides for government surveillance of contractor welding and inspection procedures to minimize the occurrence of such incidents.

DD 963 WASTE HEAT BOILERS

Question. NAVSEA embarked on a program to improve the current waste heat recovery system in December 1979. The modification program is extensive as well as expensive. Some of the items to be accomplished would be beneficial, especially if the CE boilers were to be the ultimate resolution to the problem, that is, installation of Deaeration Feedwater Tanks; however, certain others, such as installation of an exhaust gas bypass to permit dry operation of the Conseco boiler, are very questionable expenditures if the CE boilers are installed and a complete waste if the all-electric ship is the ultimate decision. Other items are questionable depending upon the length of time the Conseco boilers remain in the ships; that is, modification of the WHB system configuration for greater ease of maintenance.

What are cost estimates, per ship, for each of the various modifications?

Answer. Fiscal year 1982 cost estimates per ship are as follows:

Installation/procurement of Deaerating Feed Tanks—$407,000.

Relocation of the recirc pump (improves accessibility)—$24,210.

Header modification for leak detection—$20,500.

Exhaust bypass is not part of the short term waste heat boiler improvements. Not cost-effective.

Improve waste heat boiler (WHB) accessibility. Is not part of the short term waste heat boiler improvements, but accomplished during ROH—$383,000.

Question. Which modifications would continue in use on the "all-electric" ship? Which can be used on the CE WHB ship?

Answer. None of the modifications apply to the "all-electric" ship. The Deaerating Feed Tanks and part of the accessibility improvement ship alteration apply to the CE boiler installations.

Question. Is it worthwhile to continue to spend money on these modifications in light of the fact no firm decision as to the best course has been established and if the CE boiler fix is chosen, much of the temporary fixes will not be necessary?

Answer. It is essential to continue the installation of the short term package in order to keep the Conseco boilers functional. This is a stop-gap measure that improves waste heat boiler reliability and maintainability until a final resolution on replacement is reached and installation completed (about ten years).

Question. The Navy's decision to go all-electric on the DD 963 class represents a totally opposite position relative to CNO policy enunciated in OPNAV Instruction 4100.5A, dated May 9, 1978, regarding management of energy resources for ships, aircraft, vehicles, and shore installations. Regarding the specific goal for naval ships, the instruction indicates that by 1985 a 20-percent reduction in fossil fuel energy consumption per ship underway steaming hour is desired. If the waste heat recovery system is eliminated, reaching this goal would be impossible in the DD 963 class.

Why has the Navy disregarded OPNAV's instructions to reduce fossil fuel energy by 20 percent and chosen a system that would increase fuel consumption?

Answer. The Navy has not disregarded its instructions to reduce fossil fuel energy consumption by 20 percent. The CE system will be tested for a one-year period at sea and the results compared to the electric auxiliaries conversion installed aboard the USS PAUL F. FOSTER (DD 964). Fuel oil consumption will be looked at carefully in each case. The data will provide high confidence fuel consumption rates, which will be used in the final decision between the systems.

Question. The IDRT cited, as one of the major considerations in selecting the all-electric option, the ships' future electrical requirements which an additional generator must provide. The present DD 963 has a generating capacity of 3,600kw, with three 2,000kw generators on board. Current maximum load requirements are 3,055kw, which give the baseline ship a growth capacity of 545kw. The all-electric ship will have an electrical growth capacity of 1,315kw. This should provide the all-electric ship with an abundance of generating power that should last through the life of the class. However, knowledgeable sources at Ingalls (the shipbuilder) and NAVSEA have stated the current 2,000kw generators can be upgraded to 2,500kw. This would give the baseline DD 963 an electrical growth margin of 1,445kw. The upgrade is estimated to cost somewhat over $4.0 million as compared to a fourth generator's cost of $6.2 million (complete and installed but without electric auxiliaries as in the all-electric conversion).

Wouldn't it be more practical from both a cost and a technical standpoint to upgrade the current generators rather than embark on a program that requires major changes to accommodate a fourth generator set?

Answer. No. The upgraded units would not meet specifications. A detailed analysis of the DD 963 class 2000kw generators has been conducted by NAVSEA to determine the feasibility of upgrading these units. The results of that analysis indicate that these generators would not meet specifications for voltage dip, response time or transient voltage if upgraded beyond 2250kw.

Question. It would seem reasonable that the Naval Sea Systems Command (NAVSEA) organization which had the responsibility for The Investigative Staff learned that engineering professionals be a participant in any deliberations which affected the class. It is significant, however, that membership on the Independent Design Review Team (IDRT) tasked with the responsibility for determining the best corrective action to the WHB problem excluded PMS 389. the Investigative Staff learned that engineering professionals within the project office (PMS 389) did not believe that a waste heat recovery system was a lost cause. It was further alleged that certain personnel on the IDRT had definite anti-waste heat recovery biases.

Why was PMS 389, the project manager for the DD 963 class, excluded from membership on the IDRT?

Answer. The IDRT was established as an independent review team and purposely excluded personnel with prior involvement in the original selection and installation of Conseco WHBs to preclude biasing the study effort. PMS 389 did provide extensive information to the IDRT and participated in the internal Navy review of the IDRT findings and recommendations. The IDRT had no anti-waste heat recovery biases, and a reliable waste heat recovery system remains a Navy development objective. However, the IDRT, after extensive technical analysis, concluded that the DD 963 class reliability improvement requirements could best be achieved through the all electric conversion.

Question. Some question the objectivity of the study that resulted in the all-electric decision. There are appearances of bias almost from the point the Independent Design Review Team (IDRT) study was directed. According to the IDRT's report, the initial guidance from the September 19, 1980, Senior Navy Steering Board (SNSB) was to have the initial IDRT concentrate on eliminating waste heat boilers from the ship, either by eliminating the need for steam aboard ship or by installing oil-fired auxiliary boilers. However, if the first effort did not seem attractive, a second team was to investigate the improvement of the waste heat recovery system. Some would conclude this to be clear-cut "marching orders" that the WHBs had to go.

Why did the SNSB direct the IDRT to concentrate on eliminating waste heat boilers from the ship?

Answer. The SNSB direction was to focus the IDRT's technical resources on systems not under study within NAVSEA, thus not duplicating the efforts of PMS 400 in waste heat recovery system improvements. Waste heat boilers, including modifications to improve reliability, were fully considered by the IDRT but not chosen as the solution. The IDRT recommendations were based on their best technical judgment and were subsequently approved by the Senior Navy Steering Board.

Question. The Independent Design Review Team (IDRT), which provided the technical support to the Senior Navy Steering Board (SNSB), issued a report in February 1982 and outlined in detail the factors considered in its deliberations, the alternatives analyzed, and its conclusions. The various alternatives for resolving the DD 963 WHB problems were evaluated against several criteria established by CNO. The IDRT was to analyze alternatives, eliminating those which were clearly infeasible. Although the IDRT considered a number of options and combinations of options, only four alternatives survived the "cutting" process. Ironically, the one alternative now considered to be the most viable to the present system, or the all-electric ship, was discussed by the IDRT and rejected; that is, replacing all three Conseco WHBs with CE WHBs. In fact, rejecting the removal of a WHB system from one class of ship and on chotomy within the Navy because on the one hand CNO is advocating the removeal of a WHB system from one class of ship and on the other hand installing CE boilers on another class, the CG 47s (TICONDEROGA class).

Why has the Navy taken this dichotomous position with the waste heat recovery systems for these two classes of ships?

Answer. The position is not considered dichotomous. In view of the serious technical problems experienced with the Conseco WHBs in the DD 963 class ships, various alternatives were examined for the CG 47 class, including electric auxiliaries. A major effort has been invested in development of an effective waste heat recovery system on CG 47 which should provide satisfactory reliability and not require excessive maintenance. The results of these efforts appear promising on the basis of land based testings. However, a meaningful evaluation of the new CE WHBs cannot be made without additional at sea operating experience. This is planned, and a decision on the best solution for DD 963 and DDG 993 class ships will be made in August 1984 following the evaluation of both alternatives.

Question. The estimated cost for the conversion of the lead ship, the USS FOSTER, to all-electric has been placed at $22.0 million. The current all-electric program now provides for a full year of at-sea evaluation of the electric auxiliaries. The results of this evaluation will be compared with the CE boiler experience in both the CG 47 and DD 997.

A year-long test may very well prove the obvious—the CE boiler with its improved design and deaerated and chemically treated feedwater will most likely be relatively trouble-free, at least for the year-long test, and the four SSGTG all-electric will likely perform within reasonably acceptable limits. In short, both options represent limited technical risk. Perhaps the test is worthwhile, but the Investigative Staff concludes that the CE WHB will probably turn out to be the most cost-effective, though perhaps accommodated, solution.

Given the cost of the all-electric prototype, wouldn't the best course of action be to hold in abeyance the conversion pending sea experience with the CE WWHB system?

Answer. No. If the CE WHB system does not bring the waste heat boiler problems completely under control, then the DD 963/DDG 993 Class (34 ships) mobility would be in extremis with no time to develop a fix (estimate two years for accelerated SHIPALT development).

Question. There is little argument regarding the technical feasibility and perhaps even the greater desirability of the all-electric ship. This assumes, however, that cost is no object. It is estimated that in fiscal year 1981 dollars, the life cycle (30 years) costs for all-electric will be well over $700 million more than if the DD 963 class is retrofitted with Combustion Engineering (CE) boilers. This includes some $325 million in conversion costs and $439 million in fuel costs. (Note: Costs are based upon 34 ships, which include 4 DDG 993 (KIDD) class guided-missile destroyers which were originally scheduled for the Iranian Navy and which also have Conseco boilers.) The Investigative Staff suggests caution in the use of these figures. There are unknowns in both areas which could raise or lower the estimates; e.g., fuel costs, labor and material costs, experiencing greater or lesser reliability of equipment (steam and/or electric), etc. Clearly, however, the all-electric is the more expensive solution.

What is the estimated cost to convert the DD 963 and DDG 993 class ships to all-electric?

Answer. The estimated cost to convert the DD 963/DDG 993 class ships to all-electric is $437.8 million (fiscal year 1981 dollars).

Question. What is the cost to replace all Conseco WHBs with CE boilers for both classes?

Answer. The estimated cost to replace the Conseco WHBs with CE WHBs for both classes is $112.2 million (fiscal year 1981 dollars).

Question. Does the $325 million difference buy the Navy any greater warfighting capability?

Answer. Yes. Ship survivability is significantly increased by the addition of the fourth generator, which adds redundancy and operational flexibility to the electric plant. Additionally, the replacement of high maintenance steam systems with simpler, more reliable electric equipment allows more time for training and efforts that contribute directly to combat readiness.

Question. As a result of interviews with knowledgeable sources concerning the maintainability of the CE WHB, the Investigative Staff questioned what appeared to be a very high annualized cost ($509,000) for the improved waste heat recovery system as estimated by the IDRT. Therefore, NAVSEA was asked to make an independent assessment of what might be expected to be the annualized cost for maintenance of three CE WHBs, including the existing steam auxiliaries and steam distribution system. Although this does not exactly parallel the IDRT's improved waste heat recovery system of two CE boilers and one oil-fired boiler which were the basis for the $509,000 estimate, it was considered close enough to provide a realistic comparison. The result of the second assessment of annualized maintenance cost was striking as it is almost $150,000 less than the IDRT estimate; i.e., $362,000. Obviously, if this assessment has any degree of validity, it puts the Conseco to CE swap-out well within the range of acceptability/comparability when compared to the SSGTG all-electric; i.e., $362,000 versus $320,000.

Why is the NAVSEA independent assessment of maintenance cost almost $150,000 less than the IDRT estimate?

Answer. The source of the "NAVSEA independent assessment" is unknown. There has been no official NAVSEA assessment of comparative CE boiler and steam system maintenance costs vs. electric auxiliary maintenance costs except that performed by the IDRT, which has been formally endorsed and concurred in by COMNAVSEASYSCOM. Maintenance costs for both alternatives will be analyzed during the planned operational evaluation.

Question. Do you think there are any other factors in the Independent Design Review Team (IDRT) report that are biased toward the all-electric?

Answer. No.

Question. Are any more recent, or accurate, cost figures available on the "all-electric" versus "CE WHB" alternatives?

Answer. No.

NAVY AIRCRAFT CARRYOVER

Question. There are six Naval Air Rework Facilities (NARF's) in the Navy's aircraft maintenance structure. The NARF's are managed by the Naval air System Command (NAVAIR).

Each of the NARF's overhauls and/or repairs designated aircraft, engines, and related components. An official pointed out that component repair and support services do not contribute to carryover and this factor should be taken into consideration when calculating "desirable levels" of carryover. Component repair makes up about 54 percent of the NARF's total workload.

Carryover at the NARF's is shown below.

CARRYOVER

[In millions of dollars]

Fiscal year:	
1981	$350.7
1982	395.2
1983	374.3

NAVAIR personnel stated the NARF's are experiencing difficulties because spares are not available. As a result, NAVAIR reprograms the component repair workload each week. The reprogramming is disruptive. Further, the NARF's overhaul components concurrently with the aircraft rather than following a replacement policy. It is generally conceded that a replacement policy is more efficient. Efficiencies can also be achieved by batching components for repair rather than repairing small quantities or individual units. This potential economy is not available under current conditions.

Another "problem area" is work requested by the fleet which is not programmed. It was estimated that these unplanned fleet requests make up as much as 35 percent of total NARF work. Thus, NARF programmed work is consistently being disrupted by the unprogrammed work.

NAVAIR personnel indicated the Committee was not "told all of the facts" about the Navy's maintenance backlog and inferred the backlog would certainly not be at zero despite fiscal year 1983 funding.

Since component repair turn around time (TAT) averages 30 days at the NARF's, a reasonable carryover for this segment of work would be 1 month. Since component repair makes up 54 percent of the NARF's workload, the Committee believes funded carryover could be reduced. What is the Navy's position?

Answer. Although component repair makes up over 50 percent of the NARF's workload, it represents only about 14 percent of the carryover. For example, in the fiscal year 1980–1981 carryover the component work was 14.1 percent of the carryover; and in fiscal year 1981–1982 it was 14.6 percent. The vast majority of carryover in those years was attributable to engines and airframes which have longer TATs and therefore comprise a larger proportion of the workload that is normally in process during the fiscal year transition. Therefore, the Navy's funded carryover is appropriate for the workload.

Question. What action is the Navy taking to provide more spares (components) to the NARF's so production efficiencies can be achieved?

Answer. Navy has programmed $143.6M in fiscal year 1985 to procure an Operational Support Inventory (OSI) of components for the Naval Air Rework Facilities. This OSI will serve as a pool of components to enable replacing components from stock rather than concurrently overhauling during aircraft rework. In addition, NAVSUP is currently developing a revised-levels model for aviation repairable (2R Cog) components. The proposed model includes an Economic Repair Quantity (ERQ), which would provide sufficient components to permit inducting components in economic batches. The funding impact of an ERQ concept has not yet been assessed.

It should be noted that most of the 2R Cog items inducted for component repair at the NARF's are managed through a quarterly negotiated repair schedule. These programs cover 62 percent of the units and 78 percent of the dollars for 2R components repaired at the NARF's. This quarterly scheduling affords the NARF's a considerable degree of flexibility to batch components.

Question. What actions are being taken by the Navy to reduce the amount of unprogrammed and disruptive work imposed by the fleet on the NARFS?

Answer. Unplanned work at the NARFs consists of work in only two areas: Emergency Repair and Customer Service. Of $1.4 billion total workload in fiscal year 1981 $29 million was derived from Emergency Repair and less than $2 million in Customer Service. This represents slightly over 2 percent of the total workload and is not considered disruptive.

Question. Is the Navy satisfied that with fiscal year 1983 funding it will achieve "zero" backlog?

Answer. As the Navy has stated in previous testimony, additional modification installations may be accommodated by reprograming from airframes, engines, and components during execution. In addition, execution of fiscal year 1982 aircraft rework indicates that aircraft rework requirements may be higher than originally projected in the fiscal year 1983 budget estimate. Therefore, the Navy may not achieve a "zero backlog" with fiscal year 1983 funding.

Question. If not, where will backlogs exist?

Answer. There may be a backlog in all elements of the aircraft rework program.

Question. Has the information made available to the Committee disclosed "all of the facts" regarding Navy backlog? In short, the Committee expects the Navy to achieve "zero" backlog and not return for additional money in fiscal year 1983 or future years, nor be told backlogs "have developed".

Answer. The information that has been provided to Congress in the form of justification material, witness testimony, statements and backup exhibits reflects "all of the facts" regarding Navy's depot maintenance program and any associated backlogs. However, as noted earlier, execution of the fiscal year 1982 program indicates that requirements may be higher than projected in the fiscal year 1983 budget estimate. These problems have been specified during the testimony of Navy witnesses during Congressional hearings. Projections of workload requirements are made far in advance of execution. Changes in requirements are inevitable, and it is not unreasonable to expect that actual backlogs may differ from those projected when the budget was developed.

NAVY SHIP CARRYOVER

Question. NAVSEA manages 8 shipyards. Carryover at the shipyards shows a sharp drop between fiscal year 1982 and fiscal year 1983. One reason given for the change is the shipyards are working down the carryover.

Another reason is the timing of funding has been changed. NAVSEA personnel stated their fiscal year 1983 carryover was inadequate and their cash position poor. They believe the minimum amount of carryover should be 6 months, but would like 24 months.

Two-year O&M money was discussed at recent hearings, but Navy spokesmen were not in favor of the 2-year O&M funding concept. NAVSEA personnel stated that the spokesmen were not in favor of 2-year O&M funding because it would reduce the time they had their money. This infers that work is "inducted" and then "set aside" to be worked on at a later date. The NAVSEA personnel did not provide any support for their assertions.

Is the Navy satisfied with the O&M funding for shipyards?

Answer. Yes, because the value of workload planned to be performed by the shipyards is in balance with the resources available to fund that workload in the appropriated accounts.

Question. There are some assertions that the shipyards are "cash poor". Is this a significant problem? What is the Navy doing about it?

Answer. Yes, it is a significant problem. Fiscal year 1983 rates were established at rates in excess of costs, in some instances in order to assure adequate levels of cash would exist to meet obligations as they come due.

Question. Is the Navy satisfied that the backlog of ship maintenance will be reduced to zero in fiscal year 1983? Is the Navy "reclassifying" backlog to reach zero on paper?

Answer. Current projections are that there will be no backlog of ship maintenance due to funding constraints. There will be, however, 11 ships overdue for overhaul due to operational considerations. Even if funds were made available, these 11 ships would remain in the operational backlog and could not be inducted in overhaul because of their operational commitments.

Question. Are there maintenance activities that are "stockpiling" funds by indicating work has been initiated and then setting it aside? What steps does the Navy take to assure this is not, or will not happen?

Answer. The question is not applicable to the overhaul program since ships are not "set aside" once overhauls have commenced. Ship overhaul scheduling, work package size, industrial activity loading and duration are reviewed and agreed to by the customer (fleet) and producer (shipyard) at the CNO-sponsored Ship Maintenance and Modernization Overhaul Scheduling Conference held annually in September. Any subsequent changes must be approved by the CNO Program Director; hence centralized control is assured. Nor do any of the other maintenance activities engage in the practice of "stockpiling" funds. In order to preclude the stockpiling of funds the flow of work to the maintenance activities is controlled based on the capability of each activity to complete the work within a scheduled time period. In this way no work is inducted which will later have to be 'set aside'.

Question. Funding of long leadtime items has been revised in the shipyards. Considering the large amount of procurement funding provided to Naval Ordnance Stations (NOS), would it be appropriate to revise funding along similar lines for NOS's, or transfer the award and administration of these contracts to other Navy activities such as NAVAIR or NAVSEA?

Answer. The Navy is reviewing the situation and is considering the use of the NIF as the vehicle for funding long leadtime material for Naval ordnance facilities. This method has the advantage of retaining all customer appropriated funding in the fiscal year of work induction while not requiring costly operating and procedural changes to both the Navy Stock Fund and Navy Industrial Fund systems.

Transfer of the award and administration of long leadtime material contracts to other Navy activities is not considered appropriate. This course of action would have an adverse impact upon work execution since only the performing activity has the technical knowledge to adequately perform this function.

Question. Has the Navy considered or recently studied the relationship or ratio between "clerks, commonly called overhead." and direct labor hours?

a. If so, what are the Navy's views on the ratio, "just right" or indicative of too much overhead? Does the Navy monitor this trend and take corrective action when warranted?

Answer. Naval shipyards use both "direct" (i.e., chargeable to a customer) and "indirect" labor mandays (i.e., chargeable to an overhead account) in the conduct of ship repair and modernization. Overhead does include clerical work but also administrative effort such as supervision—including first-line supervisors and foremen plus routine operations in accordance with Uniform Costing Policies and Procedures.

The ratio of all straight time direct labor to the total labor hours expended in the shipyard (adjusted for absences due to leave and illness) is predicted in each shipyard's annual budget. This value, which can vary a few percent between shipyards, is monitored continuously both internally in the shipyard and by the Naval Sea Systems Command staff. If the ratio is trending toward a disproportionate value, corrective action is taken.

Internal reviews of charges to various job orders, both direct and indirect, are conducted within each shipyard. Procedural errors if observed are corrected.

No change in the method of computing or applying direct or indirect charges is considered necessary.

AIR FORCE CARRYOVER

Question. The Air Force operates depot activities at each of its five Air Logistics Centers (ALC's). Each depot is assigned specific aircraft for overhaul and/or repair. Two depots do all of the engines. The depots are also specialized for component repair. Depot carryover is shown below.

Carryover

Fiscal year:	*In millions of dollars*
1981	$696.3
1982	713.4
1983	767.3

Air Force personnel estimated that component repair makes up 50 to 60 percent of the depots' total workload. They also stated that turn around time for component repair is 38 days including transportation time. The Air Force personnel agreed that carryover analysis would be more meaningful if turnaround times for aircraft, engines, and components were considered separately.

The Air Force Audit Agency in a report (Project 97490) dated September 10, 1981, reported that some project orders, about $13.2 million, were retained in an open or incomplete status for up to 2 years after the end of the fiscal year. At the same time the auditors found that the depots were inducting work before appropriations were approved in order to avoid an idle work force.

Since component repair turnaround time is about 30 days, a reasonable carryover for this segment of the work would be about 1 month. Since component repair makes up about 50 percent of the depots' workload, the Committee believes funded carryover could be reduced. What is the Air Force's position?

Answer. When the Surveys and Investigative Staff asked recently about the average flow time for exchangeable component repair, Air Force personnel recalled data of several years ago when the time in maintenance was 38 days. This was a component of the depot repair cycle of 55 days, including the transportation and processing at both the field and depot levels. The 38-day flow time average is ideal and is dependent upon full parts support and availability of skills and equipment as required. In fact the ideal condition never exists, and the actual flow is 45–60 days to workload the many and varied depot maintenance shops. Some of the reasons for this level are:

a. The projection of requirements by item, the number of the items, the amount of work required to repair the item and the time it will arrive at the depot for repair is not a precise science.

b. Maintenance repairs over a million components a year (between 25,000 and 30,000 different NSN's), all with varying amounts of repair required. Projecting the parts required, procuring the parts (with some having 18 month leadtime) and having the parts in place when required are also difficult, and this is further impacted by the shortage of stock fund dollars.

c. Another indication of the complexity of managing this workload is the number of generations by NSN. For example, 64 percent of the workload has an annual generation of 12 or less, 16 percent between 13 and 24, and 20 percent 24 or more.

d. The depots are manned with approximately 250 different skills (e.g. machinists, welders, electronic, instrument, engine machinists, electrical hydraulic, textile, optical, photographic, electroplating, heat treating, sheetmetal, etc.). Obviously these skills cannot be shifted to various workloads on a day-to-day basis to satisfy peaks and valleys in generation of different assets. The problem is also impacted by manpower constraints at each depot.

We consider 45–60 days of work on hand not only reasonable but necessary to support the maintenance mission. The Air Force does not maintain sufficient assets in the inventory to batch workload into the depot. Attempts to reduce shop carryover work from current levels would create work force disruptions due to the unpredictables discussed below. If all things were perfect—requirements projection, labor standard, material standard, parts supportability, skills availability, tool and equipment all available and always in working order—the requirement for carryover could be reduced without impacting effectiveness/efficiency of the work force and cost of depot operations.

Question. The audit report seems to indicate that the Air Force is having difficulty programming depot workload. On the one hand, there is work 2 years old and not complete, while at the same time depots are inducting "next year's work early to avoid an idle work force." Do the Air Force depots have excess capacity? If so, why contract out so much work? Why not channel it to the depots?

Answer. No, present projected peacetime facility utilization figures indicate AFLC at the 88 percent level in 1982 with projected growth to 100 percent by 1985 on a single shift basis. However, should one review facilities at the micro level, we do have surplus work loads at some facilities and deficits at others. Those areas of concern to AFLC are the shops which do not have the needed capacity to support our wartime tasking. DODD 4151.1 addresses the wartime tasking for the facilities. Our constraint is dictated by manpower levels, including prudent use of overtime and temporary employees. Our objective is to efficiently and fully workload this organic capability. The Air Force believes that it does an excellent job of workloading, considering the variability of the work and the lack of a management reserve of reparable assets to provide queuing of work.

Question. If not, why the "early start" of work?

Answer. The "early start" of work was documented by the auditor in fiscal year 1979. The Air Force was in a transition period following a major change in accounting systems which among other issues involved changing customer obligations from an ouput to an input basis for exchangeable components. Complications in workloading arose because of variability in generation of specific repairables, variability in condemnation rates and parts support problems. At that time we were placing major emphasis on fully workloading the facilities to prevent wasteful idle time of employees. Year-end reconciliation of customer orders to match actual work flow is an exceedingly difficult task which had not been satisfactorily accomplished in fiscal year 1979. In response to the audit we have improved year-end close out procedures to alleviate the problems associated with early inductions.

Question. Don't 2-year project orders indicate a question of whether the work had to be done in the first place?

Answer. No. Certain categories of work by their very nature have extended flow times. Such work includes manufacture where extended lead times are required to acquire material, crash/battle damage repair, and prototype for future repairs. In addition, abnormal workloads occur with long obligation periods. For example, Air Force Systems Command issued a multi-year order in fiscal year 1979 for software development on E3A electronics. The fact that certain jobs remain open for long periods of time cannot be considered a reflection of low priority. Most of these types of work are funded by other than the O&M appropriations.

Question. Has the Air Force undertaken any studies on the workloading of its depots?

Answer. Yes, the Air Force continually undertakes to study current and out year workloading problems, manpower status, and command posture. Our complete workload picture is updated monthly and depot capabilities are reviewed on a quarterly cycle.

Question. What has the study indicated? Reduce capacity? Reduce contracting out?

Answer. Continuous findings show a need exists for increased capabilities; the depots must remain flexible in their ability to meet customers' requirements; and that single source of repair may be creating a situation which makes us vulnerable during contingency operations. Many of these issues are now being addressed on an interservice basis to ensure adequate capabilities are available without unnecessary duplication.

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CAPITALIZATION OF INDUSTRIAL FUND EQUIPMENT

THURSDAY, JULY 29, 1982.

WITNESSES

L. PAUL DUBE, DIRECTOR FOR OPERATIONS, OFFICE OF THE DEPUTY ASSISTANT SECRETARY OF DEFENSE (PROGRAM/BUDGET), OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (COMPTROLLER)

COL. EDWARD V. KARL, USA, STAFF DIRECTOR, INDUSTRIAL BASE PROGRAMS, OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

ROBERT W. THORNETT, ASSISTANT DIRECTOR FOR RESOURCES AND MANAGEMENT, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS, DEPARTMENT OF THE ARMY

BRIG. GEN. JAMES F. McCALL, COMPTROLLER, U.S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND

REAR ADM. RICHARD A. MILLER, USN, DIRECTOR, BUDGET AND REPORTS, OFFICE, NAVY COMPTROLLER

COL. CHARLES D. METCALF, USAF, DEPUTY DIRECTOR OF BUDGET (OPERATIONS), COMPTROLLER OF THE AIR FORCE

CHARLES D. McELHANON, CHIEF, MODIFICATION AND OPERATION AND MAINTENANCE PROGRAM DIVISION, DIRECTORATE OF LOGISTIC PLANS AND PROGRAMS, DEPUTY CHIEF OF STAFF, LOGISTICS AND ENGINEERING, DEPARTMENT OF THE AIR FORCE

LOUIS LAMBERT, INTEGRATION AND MANAGEMENT FUNDS OFFICE, DEPUTY DIRECTORATE FOR OPERATING APPROPRIATIONS, COMPTROLLER OF THE AIR FORCE

INTRODUCTION

Mr. ADDABBO. The committee will come to order.

Today the committee will look into the question of capitalization of industrial fund equipment purchases.

Industrial funds have been established in DOD since the early 1950's. Combined, they are big business. It is anticipated that they will do over $21 billion of business, employing almost 270,000 people, in fiscal year 1983. According to the May 1982 issue of Forbes Magazine, which ranks the Nation's largest corporations, the combined industrial funds would rank in sales just behind the 17th largest corporation in the United States.

Because of the perceived degeneration of industrial plant facilities within DOD, an August 1981 initiative by the Deputy Secretary of Defense changed the fiscal year 1983 method of funding this equipment from the Procurement Appropriations to basically the O&M Appropriations. The change will be brought about by a chargeback system whereby work performed for O&M funded "customers" of an industrial fund activity—generally, but not exclusively, depot level maintenance—will have an additional charge added to the rate for work inducted into the facility.

The additional charge will be applied against the cost of equipment depreciation, the intent being to provide a source of funding for industrial plant equipment modernization.

Another intent of the new initiative is to vest greater authority for management at the lowest levels in the DOD hierarchy. Previously, the activity manager had little control over the resolution of his equipment needs because decisions as to how much would be procured from Procurement Appropriations were made at the senior levels of DOD—decisions which generally resulted in plant equipment procurements taking a "back seat" to other items deemed more important by top level decisionmakers.

Today, the committee will review this new method of financing which DOD has termed the Asset Capitalization Program, or ACP. Because of the far reaching consequences, the committee's Investigative Staff has produced a detailed report on this issue, a copy of which will be placed in the record at this time.

[The information follows:]

NOT FOR RELEASE UNTIL AUTHORIZED BY THE COMMITTEE

June 23, 1982

MEMORANDUM FOR THE CHAIRMAN

RE: Proposed Modernization of In-House
Industrial Facilities of the
Department of Defense

By directive dated February 2, 1982, the Committee requested an investigation into the proposed modernization of in-house industrial facilities within the Department of Defense.

The study has been completed and the results are reported herein.

Respectfully submitted,

Robert C. Quigley, Director
Surveys and Investigations Staff
House Appropriations Committee

C. R. Anderson
Chief of the Surveys and
Investigations Staff
House Appropriations Committee

SUMMARY

This investigation evaluated the proposed change in Department of Defense (DOD) policy regarding the source of funding for the modernization of in-house industrial plants and determined the impact of the change on budgetary, management, equipment, and certain other aspects of DOD Industrial Fund (IF) activities.

The proposed change applies only to IF activities. DOD in-house industrial plants, essentially depot maintenance facilities of the military services, are operated under this concept. The normal operating costs of IF activities are charged to and recovered from customers ordering the product or service provided. Capital assets such as equipment are currently acquired by IF activities with direct appropriations approved annually by the Congress. The customer, therefore, is not currently charged for the equipment used to produce the product or service.

The change in DOD policy would allow IF activities to purchase equipment with funds to be collected from their customers for equipment depreciation. This new initiative is referred to in this report as the Asset Capitalization Program (or Policy) (ACP). It was approved by the Office of the Secretary of Defense (OSD) in August 1981 for implementation in FY 1983. The change is being implemented because OSD believes it would provide a better method of financing the equipment needed to modernize in-house industrial facilities which are perceived to be obsolete and generally older than those in the private sector. Over time, as the obsolete equipment is replaced, increased efficiencies should result thereby reducing the costs of the product or service to the IF customer.

The ACP applies primarily to replacement of what is generally referred to as Plant Equipment (PE), also referred to in this report as IF equipment. PE consists of two subcategorizations of equipment: Industrial Plant Equipment (IPE) and Other Plant Equipment (OPE). PE is property of a capital nature (e.g., machine tools, test equipment, vehicles, etc.) used in the manufacture of supplies, in the performance of services, or for any administrative or general plant purposes. IPE is that part of PE with an acquisition cost of $1,000 or more, used for the purpose of cutting, abrading, grinding, shaping, forming, etc., or otherwise altering the physical, electrical, or chemical properties of materials, components, or end-items used in manufacturing, maintenance, processing, etc. OPE generally is all other PE not categorized IPE.

A. Industrial Fund Activities

Title 10, United States Code, Section 2208 (10 U.S.C. 2208) authorizes the establishment of working capital funds in DOD. The use of working capital funds is intended to provide a means by which proven business and accounting procedures can replace

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complex, time-consuming, and fact-obscuring mechanisms of appropriation allotment and suballotment controls in the management and financing of certain types of goods and services. There are two types of working capital funds--Industrial Funds and Stock Funds. Industrial Funds are used for financing DOD's industrial (shipyards, aircraft maintenance depots, ordnance stations, etc.) and commercial-type (transportation, printing services, etc.) activities. Stock Funds are used for financing inventories of consumable supplies, etc. The new DOD policy does not apply to Stock Funds at this time.

DOD customers of the IF are quite varied and include fleet commanders; weapons systems managers; DOD agencies, e.g., National Security Agency; and other elements of DOD involved in logistics support. Non-DOD customers can be another Government agency or a foreign government through the Foreign Military Sales (FMS) program. DOD customers of the IF are financed from Research, Development, Test, and Evaluation (RDT&E); Procurement; Military Personnel; and Operations and Maintenance (OM) Appropriations.

In FY 1981, DOD operated 85 activities under the IF concept including 22 in the Army; 50 in the Navy; 9 in the Air Force; 2 in the Marine Corps; and 2 under the Defense IF.

The review found significant inconsistencies as to which activities of the same type are authorized to operate with IF's, and which are not. For example, Army has some research and development laboratories operating under the IF and others that are not. This raises a question regarding the consistency with which DOD applies the criteria for establishing an IF activity. While perhaps not a problem before, under the new policy these inconsistencies will result in an unusual and varied pricing structure. Customers obtaining service from an IF activity would be required to pay a higher price because of the inclusion of equipment charges, whereas the customers who obtain the same service from an activity not industrially funded would not be charged for equipment depreciation.

DOD Industrial Funds are big business. Combined, it is anticipated they will do over $21 billion of business in FY 1983. Government equity (assets) will represent some $6.2 billion. According to Forbes Magazine, Annual Directory Issue, May 1982, which ranks the Nation's largest companies, the DOD Industrial Fund would rank in sales just behind the 17th largest corporation in the United States, Shell Oil, which in 1981 had sales of $21.6 billion.

B. DOD's Asset Capitalization Program (ACP)

Under the ACP, the cost of capital investment becomes a part of the cost of operations of the IF activity and is recovered from the customer through depreciation charges over the useful life of the asset. Therefore, the customer will be charged a somewhat increased rate for the product/service. This essentially parallels

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the manner in which equipment costs are recovered in the private sector. To implement this new initiative and provide funds for equipment purchases, the rates charged customers in FY 1983 would include depreciation charges for the existing in-place IF equipment. Exceptions to the policy relate to the purchase of aircraft and ships for the Military Airlift and Military Sealift Commands and a number of other categories. DOD considers the new policy to be a more businesslike approach to providing and maintaining a modernized plant at its IF activities and a logical extension of its Fast Payback Program initiated in the mid-1970's. That program also provides for the purchase of equipment from IF resources but on a more limited basis. It will be discontinued under the new policy.

In effect, what DOD will be doing as a result of this initiative is to shift the burden of modernizing its plants to the customers of the IF, who are financed primarily from OM Appropriations. However, the impact on the customers, and therefore on the OM Appropriations, at least initially, would be that the costs (charges) would be greater than the annual equipment depreciation charges. This is because DOD's outdated PE will require far greater annual expenditures for modernization than will be recovered from the annual depreciation charges, at least until the desired degree of modernization is reached. At some point in the outyears, the depreciation charges would about equal the equipment outlay requirements. OSD believes that the crossover will occur about FY 1987, but the Investigative Staff's review indicates that it would probably be somewhat later--perhaps not until FY 1989 or 1990. In addition, because in FY 1983 OSD will capitalize and depreciate its existing equipment, it will, in effect, be increasing the corpus of the IF, i.e., the depreciation payments received from IF customers will act at least as a temporary cash infusion into the IF. OSD officials do not agree with this position. They consider the situation to be the same as the IF producing an annual profit which, over the long term, would be returned to the customer through lower unit costs.

The broad objectives of the new policy are to realize economies and efficiencies, increase productivity, and strengthen the Industrial Base. It would also free the IF activities from the machinations and constraints associated with the appropriated fund process for equipment replacement, thereby permitting more rapid and flexible plant modernization. The new policy would allow all capital equipment (i.e., costing over $1,000 with a useful life of more than 2 years) to be capitalized and depreciated, including all related costs, e.g., transportation, installation, etc. Most minor construction projects for IF activities costing $100,000 or less (authorized to be accomplished with OM funds) would also be financed from IF resources and charged to the customer in a manner similar to equipment. There would be no change in the financing of repair and maintenance of facilities which would continue to be accomplished with IF resources and recovered through customer charges. The costs of developing and instituting management systems would also be capitalized and

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amortized over the estimated useful life of the system in a manner similar to that of capital equipment.

For the first time, under the new policy, OSD is establishing cash reserves in the IF for equipment payments and other purposes. Also, but not directly nor entirely related to the new policy, OSD is directing that increased cash levels be attained through rate increases to customers in order to overcome the current low cash positions of the IF's. The aim is to have at least 30 days cash availablility. CSD points out that since the IF's were established in the early 1950's, the original 30-day cash position has eroded through inflation and it is time to correct the situation. However, the cash build-up will also assist in paying for equipment outlays and other necessary payments by the IF.

C. Visability, Management Oversight, and Control

The process by which the IF activity manager obtains equipment through direct appropriations can best be described as: long; arduous; multilayered; time-consuming; generally disappointing with regard to results; replete with roadblocks which can side-track or reduce his requirements for any number of reasons; and one over which he has little influence or control. Almost to a man, IF officials bemoaned the fact they were being held responsible for operating their facilities on an efficient and economical basis, but they had no control and little influence over modernizing their plants to meet these objectives. Moreover, with this process, it is extremely difficult for plant managers to include in their production planning, the availability of new equipment.

Under the new initiative, IF activities would still be required to develop equipment replacement budgets, but no lists of equipment would be submitted through channels to OSD. The dollar amounts of equipment to be ordered would be approved by OSD and could not be exceeded without permission. While oversight responsibility at the intermediate levels is recognized to be needed, definite policy guidance has been issued by OSD that authority to determine specific equipment purchases is to be retained at the activity (plant) level. All necessary documentation (economic analyses, etc.) required for capital equipment purchases, would still be required to be prepared and available for post-investment appraisal and audit. After the fact, OSD would review the equipment purchased, the benefits derived and other factors in subsequent budgets to determine the levels of equipment obligation authorities to be approved in future budgets. Not surprisingly, enthusiastic support was found to exist at IF activity group (e.g., in the Army, Depot Systems Command (DESCOM)) and plant levels for the decentralization of replacement equipment approval. One benefit cited by DESCOM, for example, was an expected 80 percent reduction of paperwork above the depot level. The OSD policy guidance had not been completely implemented at the time of this review, but it was proposed that IF plant level managers be allowed to order items of equipment costing up to $50,000 per item in the Army (DESCOM); less than $300,000 in the

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Navy; up to $100,000 in the Air Force; and up to $25,000 in the Marine Corps.

The new policy is not expected to disguise Defense priorities at the IF plant level. In fact, it is designed to ensure that the plant manager's needs are met to a much greater extent. Above this level, visability over IF equipment acquisition as a routine part of the budget cycle would be greatly diminished at all levels; however, this is in line with current top level OSD's management philosophy which delegates decisionmaking and responsibility to the lowest possible level. Detailed information would still be available to higher levels of management as needed.

Because the source of funds for PE is changed under the new policy, it could be argued that Defense priorities are being disguised because more latitude would be available in the Procurement Appropriations for the purchase of other items, i.e., lower priority items could be funded. Similarly, on the OM customer side, higher priority items might not get funded because of the need to pay equipment depreciation charges. However, OSD officials reject this view. While admitting that Defense priorities could possibly be disguised below the departmental level, they consider this to be basically irrelevant because the primary funding control on the services and OSD is on total annual outlays. This means that regardless of obligation authority, Defense priorities are established based upon the projected outlays for the year. Also, since Congress approves the total annual DOD outlays, which include the total outlays of the IF, the new policy would not disguise Defense priorities.

Under the new program, Congress would no longer routinely receive specific information on proposed IF equipment purchases as part of the budget document. (With the previous policy, proposed IF equipment purchases were integrated with all other proposed equipment acquisitions so that it was not readily possible to identify them.) In addition, the new policy means that Congress would no longer have direct oversight over the IF equipment to be purchased. Congress will continue to receive data on the net value of the IF equipment stock as part of DOD's annual report on the IF.

OSD legal opinions hold that under the provisions of 10 U.S.C. 2208, authority exists to implement the new policy. Accordingly, OSD believes that specific Congressional approval is not required and if Congress allows the shift of funds for equipment depreciation to the customer appropriations in FY 1983, it will have sanctioned the new initiative. OSD officials also point out that they see no reason for Congress to object to the new program since it is a logical extension of the more limited Fast Payback Program to which Congress has not objected. Although some of the services, especially the Air Force, still have some reservations about the new program, in general, all four services support it.

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D. What Problem Is DOD Trying to Correct?

DOD's primary purpose in implementing the ACP is to modernize the obsolescent, and, in some cases, inefficient IF industrial plants and equipment. It is pointed out that this situation has resulted from previous inadequate levels of funding for replacement equipment in the Procurement Appropriations. Removing these investments from these Appropriations would keep them from directly competing with the procurement of ships, aircraft, and other weapons systems and would provide IF managers more control and flexibility over equipment replacements.

OSD was requested to provide data on the previous "inadequate" levels of equipment replacement funding in the Procurement Appropriations and the annual equipment requirements for the past 5 years. These data indicated that the equipment funding levels in the Procurement Appropriations for FY 1981 and FY 1982 were $316 million and $346 million respectively. In addition, the budgets for these years included another $18 million and $26 million respectively, for the Fast Payback Program which is also financed with IF resources. The information provided did not include the equipment requirements for these years so that it was not possible to determine whether or not the previous funding levels were, in fact, inadequate. For this reason, the matter was actively investigated at the activity group and plant levels. For the activities reviewed, it was established that the past funding levels for equipment were indeed inadequate. For example, for the 5-year period FY 1979 through FY 1983 (prior to the approval of the new policy), DESCOM had a requirement of $171.7 million and received approval for funding of only $46.5 million or 27 percent of its requirement. Under the new program, DESCOM will receive authority to order about $100 million of replacement equipment in FY 1983.

Many factors should be considered in determining adequate levels of IF replacement equipment investment, such as the overall size of the inventory, its age, its technological obsolescense, etc. Navy officials cite private industry's yardstick of a capital investment of 8 percent of annual sales as an adequate level. Admittedly, capital investment includes plant and equipment and Navy's rule-of-thumb is therefore, 5 percent of annual sales for equipment only. If the Navy criterion of 5 percent is used, compared to the levels previously indicated, DOD should have had equipment investment levels of $968 million and $1.04 billion in FY 1981 and FY 1982, respectively, but in reality had an investment of only 1.7 percent and 1.8 percent of sales, respectively, in these 2 years.

E. Quantitative Equipment Data Lacking

Senior management personnel of DOD were requested to quantify the effect of the previous "inadequate" levels of IF equipment acquisitions. Many verbal descriptions were provided such as, "our equipment is outmoded, outdated, and old;" "the age of

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DOD's industrial plant is 25 years;" "some equipment was installed in 1903;" and similar descriptions. However, no one at the senior management levels could quantify or further explain the equipment status problem that would be solved through the new initiative. It was disconcerting to find that DOD had approved such a large capital investment program without the necessary documentation to quantify the equipment condition to be corrected and to establish a base line against which future progress could be measured. In addition, no uniform system for determining the profile of DOD's IF equipment or to monitor program progress, was found to be available. Had data on equipment not been fairly readily obtainable from the Defense Industrial Plant Equipment Center (DIPEC), at least for the majority of the important IPE segment, the concern would not have been so great. However, information on a service and DOD-wide basis on OPE is not readily available and little guidance on its management and control was found to exist.

It was found that all the IF activity group (e.g., DESCOM) and activity (plant) levels visited did have the necessary equipment status data available. For example, PE at the Naval Air Rework Facility, Norfolk, had an average age of 13.5 years with an estimated average service life of 11.5 years. Similarly, Headquarters, Air Force Logistics Command (AFLC) had available the results of a one-time 1981 study based on a random sample of its IPE which indicated that its average age was 9.5 years against an estimated average useful life of 19 years. (These results, however, are questionable based on a review of the equipment records and other factors.)

Since DOD has not quantified its PE problem, it has not developed a plan with definitive goals and investment levels needed to correct the problem and, therefore, could provide no estimate of its cost. OSD officials have stated that they intend to continue the FY 1983 IF equipment obligation authority (OA) level of $706 million until at least FY 1987. (OA means the amount of IF equipment which can be ordered.) In view of the above, it appears that an open-ended program in excess of $3.5 billion is being established.

F. Financing the Cost to Correct the Equipment Problem

OSD officials consider that the uniqueness of the IF allows them to use its unobligated balances ($2.8 billion at end FY 1982) to initially order the $706 million worth of equipment in FY 1983. Because the equipment is usually delivered over a 3-year period, continuing the same OA level in future years means that peak outlays for the equipment will be reached by the third year (FY 1985) when $706 million would have to be paid (i.e., OA equals outlays). Before that time, DOD would be obligating funds in excess of those approved by the Congress in the DOD budget, e.g., about $465 million for equipment acquisition in FY 1983.

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However, OSD officials state that this is normal for IF's. Depreciation for the DOD's IF equipment inventory for FY 1983 is estimated at $241 million. This amount has been added to the customer appropriations in FY 1983. The procedures of the IF are such that depreciation is also collected over a 3-year period. In the initial year (FY 1983) equipment deliveries are minimal so that depreciation collected by the IF from the customers is expected to exceed the outlays required for equipment deliveries. However, since depreciation revenues are not expected to cover equipment outlays until at least FY 1987, there is a large shortfall each year which must be financed. For example, analysis by the Investigative Staff indicates that through FY 1985, this shortfall, which the customer appropriations would be required to pay, would be about $648 million, assuming level OA of $706 million each year. OSD did not commit itself as to how these shortfalls would be financed in FY 1984 and beyond, indicating there were a number of alternatives to choose from and they wanted to keep their options open.

There are a number of options available to OSD to finance the shortfalls, but it appears likely, based on the information obtained during this investigation, the customer will pay not only for the equipment depreciation, but also for the additional amounts necessary to meet the required equipment outlays. These shortfalls could be financed by charging the customers higher rates in order for the IF to generate a profit each year. In fact, in FY 1983, IF profits are expected to be $490.6 million. OSD explained that this large profit, which is primarily in the Air Force IF ($236 million), is not related to the new policy but is needed to prevent a low cash position resulting from the removal of contract depot maintenance from the Air Force IF and for other reasons. Review indicates that the FY 1983 budgetary impact of the new policy is the deletion of about $280 million from the Procurement Appropriations over the previous year and the addition of $241 million for estimated depreciation charges to the customer appropriations (primarily OM) for a net change of $39 million in obligation authority. In the outyears (FY 1984 to FY 1987), OSD has indicated a total of approximately $960 million, identified in the services' Procurement Appropriations for IF equipment, was shifted to the IF customer appropriations.

G. Benefits Anticipated

One of the benefits expected to be realized through the new policy would be increased productivity leading to lower unit costs to the customers. However, OSD has established no annual increased productivity targets to reflect the benefits to be derived from the planned expenditures for IF replacement equipment and it was not possible, therefore, to determine the tangible savings to result from the new program. It was stated that DOD should obtain savings as a result of increased productivity, in excess of the funds spent for the replacement equipment, i.e.,

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in excess of $3.5 billion. To document the resultant savings will require that DOD establish a firm equipment modernization program based upon an identifiable baseline; be able to measure its progress in terms of investment and benefits each year; and be able to identify and justify any necessary adjustment due to other than equipment improvements, e.g., increased or decreased workload.

H. DOD Equipment

As mentioned above, despite the lack of quantitative IF equipment status data available from senior DOD management levels, it was readily obtained from DIPEC, at least, for the important IPE inventory of the Army, Navy, and DLA. (Air Force does not provide the same detailed data to DIPEC.) Together with the results of the Air Force equipment age study mentioned earlier, these data indicate that the average age of DOD's IPE varies from a low of 9.5 years with an average service life of 19 years (AFLC) to a high of 19.1 years with an average service life of 17.3 years (DLA). With regard to the Army, Navy, and DLA, for which more comprehensive data are available, the combined results indicate an average age of 15 years with an average service life of 14.7 years. Clearly, therefore, information does exist and is readily available in DOD on IPE--the most important segment of IF equipment. This information represents a baseline. If it can now be determined where DOD should be in terms of its IPE, i.e., the goals of a modernization program, then it will be possible to measure progress toward these goals. This is a most critical aspect of the OSD program and one that, to date, seems to have eluded all concerned.

The procedures for repair/replacement of equipment were also reviewed. It was found that the people at the activity (plant) level were intimately familiar with the depot's workload and equipment needs. It was notable that each of the depot activities visited had some form of program for evaluating PE. Mechanisms exist for determining whether worn out equipment should be replaced, repaired or remanufactured and the most knowledgeable people appear to be making the evaluations (including preparation of the necessary economic analyses).

I. Other Areas of Interest

OSD officials state that at this time, they have no intention of including military construction above the level authorized for OM Appropriations ($100,000) under the new policy. However, they believe that some changes may be desirable. Financing specific minor construction projects associated with the installation of essential equipment with IF's instead of military construction appropriations may be advantageous. Such efforts might be accomplished utilizing IF resources in conjunction with an approval process similar to that in effect for minor construction projects currently financed from military construction appropriations.

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The new policy includes the purchase of vehicles (e.g., passenger vehicles, forklift trucks, shop vehicles, fire and rescue vehicles, etc.) with IF resources; however, there would be no change in the procurement procedures involved. Centrally procured and managed standard items would continue to be centrally procured in order to achieve economies of scale.

J. Private Sector Equipment Status

The most meaningful data for comparison of DOD's and U.S. industry's equipment was found to be the 12th American Machinist Inventory, published December 1978. However, because of definitional problems, it allows ready comparison to be made only on machine tools and then only in two categories. These two categories, metalworking--cutting and metalworking--forming, are considered to be the primary machine tools. The comparison indicates that while about 35 percent of U.S. industry's equipment in these two categories was over 20 years old (in 1978) the Army, Navy, and DLA (for which the only comparative DOD data was available) had equipment over 20 years old (in 1982) ranging from 55 percent to 83.4 percent of their inventory in these two categories--showing that DOD's primary machine tools are over[illegible]e compared to U.S. industry's.

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I. INTRODUCTION

A. Directive

By directive dated February 2, 1982, the Committee requested an investigation be made into the proposed modernization of in-house industrial facilities operated by the military components and agencies of the Department of Defense (DOD).

B. Background

DOD industrial plants, essentially the depot maintenance facilities of the military services, are experiencing problems associated with equipment aging; i.e., a decrease in productivity and effectiveness, especially when compared to activities where plant modernization has been an important, recognized attribute of a properly managed business environment.

Of concern in this study is what is generally referred to as Plant Equipment (PE) also referred to in this report as industrial fund or IF equipment, which consists of two subcategorizations of equipment: Industrial Plant Equipment (IPE) and Other Plant Equipment (OPE), although other assets such as real property are also discussed as falling within the purview of DOD's proposed funding initiative.

Department of Defense Directive 4275.5, dated October 6, 1980, provides several definitions, which, although not the ultimate for a clear understanding, are essential as a baseline for the material to be discussed.

> "Plant Equipment (PE). Personal property of a capital nature (consisting of equipment, machine tools, test equipment, furniture, vehicles, accessory, and auxiliary items, but excluding special tooling and special test equipment) used or capable of use in the manufacture of supplies, in the performance of services, or for any administrative or general plant purposes."

The DOD directive further defines the two subcategories of plant equipment as follows:

> "Industrial Plant Equipment (IPE). That part of plant equipment, with an acquisition cost of $1,000 or more, used for the purpose of cutting, abrading, grinding, shaping, forming, joining, testing, measuring, heating, treating, or otherwise altering the physical, electrical, or chemical properties of materials, components, or end items entailed in manufacturing, maintenance, supply, processing, assembly, or research and development operations * * * ."

> "Other Plant Equipment (OPE). That part of plant equipment regardless of dollar value that is used in or with the manufacture of components or end items for maintenance, supply, processing, assembly, or research and development operations; but excluding items categorized as IPE."

Because it is almost universally recognized within DOD that PE is aging at a rate that seemingly cannot be reversed by the previous method of funding, the Office of the Secretary of Defense (OSD) directed that beginning October 1, 1982, PE would be funded with resources available to the Industrial Funds (IF) which would be aggragated by charging back to the customers the depreciation cost of in-place plant equipment assets. The program would be initiated by initially granting obligation authority of $706 million to DOD IF activities for equipment acquisitions in quantities far exceeding those of previous years. In turn, depreciation costs are to be recouped from the customer as part of the normal IF process.

Through the Asset Capitalization Program (principally equipment) approved by the Deputy Secretary of Defense in August 1981, it is OSD's intention to reverse the trend toward PE antiquity by placing the funds and the responsibility for equipment procurement decisions much closer to the user level. It is OSD's belief that this is a more fiscally sound, businesslike method of acquiring PE--one which will establish the services on a more cost-effective footing without the technological regression that has occurred when PE has competed tor Procurement Appropriations with other items apparently deemed more important by top level departmental decision makers.

C. Scope of Investigation

As the new capitalization initiative transcends all DOD components with industrial plant facilities, interviews were held within OSD, the Air Force, Army, Navy, Marine Corps, and the Defense Logistics Agency (DLA). In each organization, departmental level personnel charged with the management of industrial funds and plant equipment were interviewed. Principally, within the OSD Comptroller organization, which is responsible for the IF program, efforts were directed toward determining the reasons the program was initiated, what are its goals and objectives; as well as how progress toward these goals and objectives would be measured.

Within the military departments, interviews were conducted at Headquarters, Air Force Logistics Command (AFLC) and its Oklahoma City Air Logistics Center (OCALC); Department of the Army Materiel Development and Readiness Command (DARCOM), and its subordinates, Depot Systems Command (DESCOM), and Letterkenny Army Depot, both located in Chambersburg, Pennsylvania. Because of the Navy's logistical command structure, in addition to personnel in the Chief of Naval Material (CNM) organization, personnel were interviewed at both the Naval Air Systems Command (NAVAIR), and Naval Sea Systems Command (NAVSEA). The Navy depot level activities visited were the Naval Air Rework Facility, Norfolk, and the Norfolk Naval Shipyard, Portsmouth, Virginia. No intermediate or depot level activities in the Marine Corps were visited due to time constraints and the relative similarity of the Marine Corps situation to that of the other three services.

According to DOD policy, DLA is assigned a significant role in the management of industrial plant equipment. To ascertain DLA's responsibilities, interviews were held at DLA Headquarters, Cameron Station, Virginia, and supporting information was provided by the Defense Industrial Plant Equipment Center (DIPEC), Memphis, Tennessee.

The Investigative Staff correlated its findings with information and practice in the civil and private sectors. For this purpose, information was obtained from the Bureau of Economic Analysis, U.S. Department of Commerce. To gain an understanding of equipment profiles in the private sector, information was obtained from the publishing firm of McGraw-Hill and other recognized business publications. For an example of how a major construction and materials handling equipment manufacturing company addressed equipment technology and replacement in their facilities, personnel of the Caterpillar Tractor Company of Peoria, Illinois, were interviewed to determine their corporate policy as well as their views on the subject of plant equipment modernization.

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II. DOD WORKING CAPITAL FUNDS

Industrial Funds, from which the proposed equipment modernization program would be funded, are a part of a larger fund group, DOD Working Capital Funds. The National Security Act of 1947, as amended in 1949 and codified in Title 10, of the United States Code, Section 2208 (10 U.S.C. 2208) authorized the establishment of working capital funds as a means of more effectively controlling the cost of programs and work performed by DOD activities. A DOD document, Department of Defense Working Capital Funds, September 30, 1981, defines the following two categories of working capital funds:

> "Those required to fund industrial and commercial type activities which provide common service within or among the departments and agencies of the DOD, which are referred to as 'Industrial Funds,' and
>
> "Those required for the financing of inventories of consumable stores, supplies, materials and equipment, referred to as 'Stock Funds.'"

The use of working capital funds is intended to provide a means by which proven business and accounting procedures can replace the otherwise complex, time-consuming and fact-obscuring mechanisms of appropriation allotment and suballotment controls in the management and financing of certain types of goods and services used by DOD activities.

Operating costs of an industrial-type (shipyard, ordnance station) or commercial-type (transportation, printing services) activity in which an IF has been established are financed with resources available to the fund and are charged to and reimbursed by the "customer." Customers of an IF activity may be:

Defense:

- -- Operating commands or mission units, e.g., Fleet or type commanders
- -- Operating agencies, e.g., National Security Agency
- -- Commodity commands, e.g., Army's Tank Automotive Command
- -- Inventory Control Points, e.g., Ship Parts Control Center
- -- Weapons systems managers, e.g., F-15 Systems Project Office

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-- Project managers, e.g., M-1 Tank

-- Defense components having responsibilities separate from IF activities, e.g., commanders of installations or units.

Non-Defense:

-- Other Government agencies, e.g., National Aeronautics and Space Administration

-- Private individuals and businesses

-- Foreign Governments through the Foreign Military Sales (FMS) program

DOD customers of the IF are financed from Research, Development, Test and Evaluation (RDT&E); Procurement; Military Personnel; and, primarily, Operations and Maintenance (OM) Appropriations. On the average, the following appropriations fund the work done by the IF activities during a given year: OM--68 percent; RDT&E--11 percent; Procurement--8 percent; and Military Personnel--3 percent. The remaining 10 percent is provided by non-DOD sources.

Among the benefits cited by DOD for the IF method of management and financing are:

-- More complete knowledge and control of operating costs by the activity that incurs the cost;

-- Increased incentive for economy and efficiency by the producing activity; and

-- Greater care by ordering activities in placing orders for materials, products or services because of the prices they must pay.

Stock Funds, the second category of working capital funds finance the acquisition costs of consumable items of inventory. The scope of this study does not include Stock Fund operations, but is limited to IF activities since the DOD proposal to capitalize assets, at this time, applies only to IF activities.

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III. DOD INDUSTRIAL FUND ACTIVITIES

Based upon the authority contained in 10 U.S.C. 2208, there have been five IF's established in DOD, one for each of the four military services (Army, Navy, Marine Corps, and Air Force) and one Defense Industrial Fund for Defense Logistics Agency (DLA) and Defense Communications Agency (DCA) activities. Each of the various individual IF activities (e.g., depots) are a part of one of these funds.

A. Industrial Fund Charters

Prior to financing a specific activity under one of the IF's, a charter is granted by the Secretary of the military department or by the Director of the defense agency responsible for the activity. The charter is reviewed and approved by the Assistant Secretary of Defense (Comptroller) and authorizes the activity to operate under DOD Directive 7410.4, "Regulations Governing Industrial Fund Operations." Charters provide the name and location of the activities authorized to operate under the charter; designate the operating agency (command) within the IF directly responsible for management of the activity; include a brief description of the function of the activity and nature of its products and/or services; and contain any statements of specific exceptions to DOD regulations which may govern the operation of the activity.

In support of a charter application, the applicant describes the working capital requirements; the needed investment in inventories; the expected volume of business; the source of reimbursement; and the basis for charging for services furnished to agencies outside of DOD. In essence, the working capital finances the cost of producing goods or services. In turn, the IF is reimbursed by the customer through progress payments for the goods or services furnished.

B. Growth of Industrial Fund Activities

Since reports to the Congress on the condition and operations of the DOD IF were first required for the fiscal year ending June 30, 1953, the number of IF activities has grown considerably. At that time there were only 15 DOD activities operating with industrial funds. The Army operated three arsenals, two manufacturing depots and two printing plants; Navy had one shipyard, two ordnance plants, two printing services (17 plants), the Military Sea Transportation Service (now Military Sealift Command) and the Naval Research Laboratory. In the early 1950's the Air Force operated only one IF activity, the Defense Printing Service in San Antonio, Texas.

By the end of fiscal year (FY) 1981, 85 DOD activities were operating under IF charters. The Army operated 22; the Navy, 50;

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Air Force, 9; and the Marine Corps, 2. The Defense Industrial Fund also operated two. In the future additional activities can be expected to be industrially funded. During this review, the Investigative Staff learned that a number of additional activities are being studied for operation with IF including the Defense Logistics Agency's Defense Industrial Plant Equipment Center.

C. Current Types of Industrial Fund Activities

There is wide variety in the types of activities financed under IF procedures, including:

- Naval shipyards
- Ordnance plants
- Printing plants
- Repair and overhaul depots
- Traffic management and terminal services
- Research and development activities
- Real property maintenance services
- Airlift and sealift transportation

D. Specific Industrial Fund Activities

In FY 1981, the 85 DOD activities which were financed and operated under IF procedures were:

1. Army Industrial Fund (22 Activities)

-- Armament Facilities

Four arsenals located at Denver, CO; Pine Bluff, AR; Rock Island, IL; and Watervliet, NY. Also included are the McAlester Army Ammunition Plant, McAlester, OK; and the Crane Army Ammunition Activity, Crane, IN.

-- Missile Facilities

U.S. Army Missile Command, Redstone Arsenal, Huntsville, AL.

-- Depot Facilities

Tooele Army Depot, Tooele, UT, including satellites, Pueblo Depot Activity, Pueblo, CO; Navaho Depot Activity, Flagstaff, AZ; Fort Wingate Depot Activity, Gallup, NM; and Umatilla Depot Activity, Hermiston, OR. Also, the Seneca Army Depot, Romulus, NY; Anniston Army Depot, Anniston, AL; Sierra Army Depot, Herlong, CA; Letterkenny Army Depot, Chambersburg, PA, including satellite, Savanna Army Depot Activity, Savanna, IL; New Cumberland Army Depot, New Cumberland, PA; Red River Army Depot, Texarkana, TX, including satellite, Lexington-Blue Grass Army Depot Activity, Lexington, KY; Sacramento Army Depot,

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Sacramento, CA; Sharpe Army Depot, Lathrop, CA; Tobyhanna Army Depot, Tobyhanna, PA; Corpus Christi Army Depot, Corpus Christi, TX.

-- Laboratories and Proving Grounds

U.S. Army Electronics Research and Development Command, Harry Diamond Laboratory (only), Adelphi, MD; U.S. Army Materials & Mechanics Research Center, Watertown, MA; U.S. Army Research and Development Command, Dover, NJ, with satellites, Fire Control and Small Caliber Weapons Systems Laboratory, Dover, NJ; U.S. Army Chemical Systems Laboratory, Edgewood, MD; Benet Laboratory, Watervliet, NY; and Ballistics Research Laboratory, Aberdeen, MD.

-- Transportation

Military Traffic Management Command; Military Traffic Management and Terminal Service, Eastern Area, Bayonne, NJ; and Western Area, Oakland, CA.

2. Navy Industrial Fund (50 Activities)

-- Shipyards

Naval Shipyards at Philadelphia, PA; Charleston, SC; Portsmouth, VA; Portsmouth, NH; Bremerton, WA; Long Beach, CA; Vallejo, CA; and Pearl Harbor, HI.

-- Ordnance Plants

Naval Ordnance Stations at Indian Head, MD, and Louisville, KY; Naval Weapons Stations, at Colts Neck, NJ; Yorktown, VA; Seal Beach, CA; Concord, CA; and Charleston, SC; also the Naval Weapons Support Center, Crane, IN; Naval Torpedo Station, Keyport, WA; and Naval Ship Weapons Systems Engineering Station, Port Hueneme, CA.

-- Strategic Weapons Facilities

Polaris Missile Facility Atlantic, Charleston, SC; and Strategic Weapons Facility, Pacific, Silverdale, WA.

-- Laboratories

Naval Research Laboratory, Washington, DC; Naval Weapons Center, China Lake, CA; Naval Avionics Center, Indianapolis, IN; David W. Taylor Naval Ship Research and Development Center, Bethesda, MD; Naval Coastal Systems Laboratory, Panama City, FL; Naval Air Development Center, Johnsville, PA; Naval Air Test Center, Patuxent River, MD; Naval Air Engineering Center, Lakehurst, NJ; Naval Civil Engineering Laboratory, Port Hueneme, CA; Naval Ocean Systems Center, San Diego, CA; Naval Air Propulsion Test Center, Trenton, NJ; Naval Underwater Systems Center, Newport, RI; Naval Pacific Missile Test Center, Point Mugu, CA; and Naval Surface Weapons Center, Dahlgren, VA.

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-- **Printing**

Naval Publications and Printing Service, Washington, DC.

-- **Transportation**

Military Sealift Command, Washington, DC.

-- **Base Services Activities**

Public Works Centers at Norfolk, VA; Pearl Harbor, HI; San Francisco, CA; Guam, M.I.; Subic Bay, R.P.; San Diego, CA; Great Lakes, IL; and Pensacola, FL.

-- **Aircraft Maintenance**

Naval Air Rework Facilities at Alameda, CA; North Island, CA; Norfolk, VA; Cherry Point, NC; Jacksonville, FL; and Pensacola, FL.

3. Air Force Industrial Fund (9 Activities)

-- **Laundry and Dry Cleaning Services**

Air Force Laundry and Dry Cleaning Services, Air Force Services Office, Philadelphia, PA (includes 17 plants).

-- **Transportation**

Military Airlift Command, Scott AFB, IL.

-- **Depot Maintenance**

Air Logistics Centers (ALC's) at Warner Robins, GA; Ogden, UT; Oklahoma City, OK; Sacramento, CA; San Antonio, TX; and the Aerospace Guidance and Metrology Center, Newark AFS, OH.

-- **Base Services Activities**

San Antonio Real Property Maintenance Agency, San Antonio, TX.

4. Marine Corps Industrial Fund (2 Activities)

Marine Corps Logistics Supply Bases at Albany, GA, and Barstow, CA.

5. Defense Industrial Fund (2 Activities)

Includes the IF activities of both the Defense Logistics Agency and the Defense Communications Agency. The DLA Fund finances a clothing factory in Philadelphia, while the DCA Fund provides worldwide long haul communications services to DOD and other authorized customers.

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E. Inconsistencies in Industrial Fund Activities

Industrial Funds are justified for use by DOD activities because they are similar to commercial and industrial operations in the private sector, and which, through the working capital fund concept, can be operated using business oriented, financial, management, and accounting systems. However, during its review, the Investigative Staff found significant inconsistencies as to which activities of the same type are authorized to operate with IF's, and which are not. This raises a question regarding the consistency with which DOD applies the criteria for establishing an Industrial Fund activity.

Inconsistencies exist both within and between the military services. For example, in the Army some research and development (R&D) laboratories are industrially funded while some are not. In the Navy, all major R&D laboratories are industrially funded; however, in the Air Force, laboratories are funded through direct appropriations. When queried concerning this unusual situation, Army officials stated that R&D laboratories currently under the IF were historically part of an industrially funded Army arsenal, and when its arsenal was closed (e.g., U.S. Army Materials and Mechanics Research Center, Watertown, Massachussetts) or when it became a separate activity (e.g., Benet Laboratory, Watervliet, New York), the laboratories retained their IF status. When it was pointed out that Harry Diamond Laboratory, Adelphi, Maryland, was industrially funded and never associated with an arsenal (having been spun-off from the National Bureau of Standards) Army officials admitted there was really no hard and fast explanation for the inconsistency.

A similar unusual situation exists in the Air Force where laundry and dry cleaning services are industrially funded. This is not true in the other three services. The Navy's Publication and Printing Service is another example. In the Navy, the operation is industrially funded; however, in the other three services' similar operations are not. Further illustrating the inconsistency of the application of criteria is that both the Army and the Air Force operated printing services under the IF in the 1950's, a situation that was later changed.

While this situation may not have been a significant problem in the past, it may be unwise to perpetuate the practice in the future if DOD's new initiative to capitalize IF assets is to be implemented. To do so would result in an unusual and varied pricing structure since a customer obtaining service from an IF activity would be required to pay a higher price because of the inclusion of equipment depreciation charges, whereas the customer who obtains the same service from an activity not industrially funded would probably pay less. A notable example would be in the laundry and dry cleaning area.

In regard to R&D laboratories, a similar anomaly will result. A laboratory under the IF would be able to obtain and maintain

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the necessary equipment to keep up with technological changes, but would have to charge its customers a commensurately higher rate. This would make that laboratory less competitive than a laboratory not industrially funded--one which obtains its equipment as a "free good" through Procurement Appropriations procedures and does not have to recover the cost of the equipment through a chargeback to its customers.

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IV. DOD INDUSTRIAL FUND OPERATIONS

DOD Industrial Funds are big business. Combined, it is anticipated they will do over $21 billion of business in FY 1983. Government equity (assets) will represent some $6.2 billion. According to Forbes Magazine, Annual Directory Issue, May 1982, which ranks the Nation's largest companies, the DOD Industrial Fund would rank in sales just behind the 17th largest corporation in the United States, Shell Oil, which in 1981 had sales of $21.6 billion. As will be noted in the following statistics, the funds are large in terms of total volume of business, annual workload accomplished, and the number of civilian personnel employed. The following are selected statistics provided by OSD:

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A. New Customer Orders (Sales)*

	Actual FY 1981	Estimate FY 1982	Estimate FY 1983
	---- (Dollars	in Millions)	-----
Total DOD Industrial Fund	19,364.8	20,706.2	21,267.6
Army Industrial Fund	2,638.5	2,956.4	3,117.0
Armament Command	379.6	410.8	364.6
Depot Activities	1,351.2	1,555.7	1,658.7
Missile Command	343.7	365.7	403.0
Military Traffic Management Command (MTMC)	160.7	192.5	213.6
Research and Development Activities	403.3	431.7	477.1
Navy Industrial Fund	10,941.2	11,203.7	12,483.9
Aircraft Rework Facilities (NARF's)	1,362.6	1,368.8	1,511.5
Military Sealift Command	1,684.9	1,828.0	2,161.6
Ordnance Activities	1,095.4	1,126.8	1,162.4
Printing and Publication	153.0	155.1	158.6
Public Works Centers	786.9	841.8	919.3
Research and Development Activities	2,915.1	3,045.2	3,162.3
Shipyards	2,943.2	2,838.0	3,408.2
Marine Corps Industrial Fund	62.5	76.8	87.4
Depot Maintenance	62.5	76.8	87.4
Air Force Industrial Fund	5,090.7	5,839.4	4,859.8
Airlift Service (MAC)	2,063.2	2,438.7	2,394.3
Depot Maintenance (Air Logistics Centers)	2,898.2	3,257.1	2,312.4
Real Property Maintenance	124.5	138.7	148.0
Laundry/Dry Cleaning	4.8	4.9	5.1
Defense Industrial Fund	631.9	629.9	719.5
Communication Services	611.3	603.0	690.4
Clothing and Textile Center	20.6	26.9	29.1

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*Customer orders are requests from customers of the Industrial Fund to provide services or products as applicable. New customer orders are those customer orders which are received in the current fiscal period and are supported by appropriate funding documents.

Amounts may not add due to rounding.

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B. **Net Operating Income or Loss (-)**

	Actual FY 1981	Estimate FY 1982	Estimate FY 1983
	---- (Dollars	in Thousands)	----
Army	48,555	50,071	85,373
Navy	76,393	(-221,900)	167,200
Marine Corps	2,993	1,384	-
Air Force	(-8,646)	58,000	236,000
Defense	35,210	(-32,000)	2,000
Total	154,505	(-144,445)	490,573

C. **Total Government Equity** (End of Fiscal Year)

	Actual FY 1981	Estimate FY 1982	Estimate FY 1983
	---- (Dollars	in Thousands)	----
Army	1,822,523	1,906,016	1,979,556
Navy	3,010,669	2,963,072	3,329,213
Marine Corps	21,650	24,230	24,394
Air Force	479,703	537,703	773,703
Defense	73,395	41,395	43,395
Total	5,407,940	5,472,416	6,150,261

D. **Full-Time Permanent Personnel**

	Actual FY 1981	Estimate FY 1982	Estimate FY 1983
Army	58,403	59,355	59,630
Navy	164,100	165,686	169,131
Marine Corps	1,311	1,311	1,516
Air Force	38,990	38,798	37,116
Defense	1,547	1,555	1,555
Total	264,351	266,705	268,948

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V. DOD'S NEW ASSET CAPITALIZATION POLICY

A. What Is It?

Normal operating costs at IF activities are recovered through rates charged to the users (customers) of these facilities. Capital investment items such as equipment and plant construction, however, have generally been financed from direct appropriations, approved by the Congress.

In August 1981, the Deputy Secretary of Defense approved a new initiative, to be effective October 1, 1982, which provides for capital investments to be financed from IF resources, rather than from funds directly appropriated by the Congress. The cost of the capital investment becomes a part of the cost of operation of the IF activity and is recovered from the customer through depreciation charges over the useful life of the asset. Therefore, for equipment, the customer would be charged a somewhat increased rate for the product/service due to the addition of a depreciation charge which, over time, would recover the cost of the equipment. This would essentially parallel the manner in which equipment costs are recovered in the private sector. To implement this new initiative and to provide funds for equipment purchases, the rates to be charged for work inducted into IF activities in FY 1983 would include the depreciation charges for existing, in-place IF equipment at the end of FY 1982.

Exceptions to the policy relate to the purchase of aircraft and ships for the Military Airlift and Military Sealift Commands and a number of other categories which are discussed in subsequent sections of the report.

DOD considers this new initiative to be a more business-like approach to providing and maintaining a modernized plant at its IF activities. In addition, it is considered a logical extension of a similar but more limited program, the Fast Payback Program (for equipment), implemented in the mid-1970's. That program allows the purchase of selected items of equipment with IF resources, if the increase in productivity will result in rapid amortization of the investment. In FY 1982, the limit on items of equipment purchased under the Fast Payback Program is $300,000 with payback of the investment to be within 3 years. Exceptions to this limit have been granted for Navy shipyards ($1 million and 5-year payback), and Army activities ($600,000 and 4-year payback).

B. What Will Be Its Impact?

Although there are other alternatives, it appears that, in effect, what DOD will be doing as a result of this initiative is to shift the burden of modernizing its plants to the customers of the IF, who are financed primarily with resources from the annual

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OM Appropriations. DOD Procurement Appropriations would no longer be the source of funds for equipment acquisition under the new policy. The impact on the customers, and therefore, on the OM Appropriations, at least initially, would be that costs (charges) will be greater than the annual equipment depreciation charge. This is because DOD's outdated PE will require far larger annual expenditures for modernization than will be recovered from the annual depreciation charges against existing equipment, at least until the desired degree of modernization is reached. Therefore, until that time, the customer would be paying increased rates to cover the depreciation charge for in-place equipment plus an additional amount necessary to cover planned outlays for new equipment.

At some point in the outyears, the depreciation charge would about equal the outlays. When queried as to when this would be, an OSD official stated that "near-term expectations are that savings from increased productivity through FY 1987 will be plowed back" into equipment purchases. OSD anticipates that by about that time, the depreciation that will accrue from the cumulative increases in equipment purchases will diminish additional charges for equipment outlays to their lowest point. Based on review of the information provided by Defense officials, it is likely that this crossover would take some years longer to occur--probably not until FY 1989 or 1990. The customer, therefore, would be charged increased rates for equipment purchases in excess of the depreciation charges for in-place equipment for 5 years or longer. It should also be pointed out, that while in theory the purpose of the depreciation charge is to recover the cost of the equipment and to use the funds so generated to replace the equipment at the end of its useful life, in reality, especially in an inflationary environment, depreciation charges will never cover replacement costs. Therefore, in order to keep IF plants at the desired degree of modernization, it appears that customers will always be paying some additional amount above the charges for depreciation.

As DOD enters into the Asset Capitalization Program in FY 1983, it will capitalize and charge depreciation for its existing IF equipment. The capitalization of the existing stock of IF PE is really an increase in the corpus of the IF, i.e., payments to be received for the depreciation charges on this equipment will act at least as a temporary cash infusion into the IF. OSD officials disagree since they believe the capitalization of equipment and its depreciation to be the same as the IF producing an annual profit which, over the long term, would be returned to the customer through lower unit costs. Regardless of the viewpoint taken, it should be recognized that this is a rather painless way for DOD to generate part of the revenues required to purchase the equipment needed to modernize its IF plants.

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C. What Are the Objectives?

DOD officials state that the objectives of the new Asset Capitalization Program are to: realize economies and efficiencies, increase productivity and strengthen the Industrial Base. In addition, it is intended to permit IF activities to operate in a manner similar to commercial activities, while freeing them from the machinations and constraints associated with the appropriated fund process for equipment replacement. It is hoped this will permit more rapid and flexible plant modernization. OSD representatives believe these objectives can best be accomplished by both changing the fiscal management policies for the purchase of PE and by significantly increasing the level of equipment purchases planned for IF activities.

OSD believes that past investment levels in IF capital equipment have been inadequate and have therefore resulted in outdated equipment and inefficient operations. In addition, with the severe competition for available resources, DOD managers have favored weapons modernizations at the expense of capital equipment modernization. With the new policy, the IF manager's control of his operation would be greatly increased in that both authority and responsibility would be vested at the lowest levels. Hopefully, the program would result in improved productivity and lower costs.

D. What Will Change?

1. In DOD

a. Equipment

Under current DOD procedures, PE costing $5,000 or more is purchased with appropriated funds, primarily from Procurement Appropriations approved by Congress. Equipment costing less than $5,000 is acquired with IF resources. Equipment costing over $5,000 (up to the limits described earlier in this section) authorized under the Fast Payback Program is also purchased with IF resources.

Further, current DOD procedures require that equipment with a useful life of 2 years or less, purchased with IF resources, and costing less than $1,000, is to be "expensed." This means that the equipment cost is written off as an expense in the year acquired and charged to the customer accounts in the same manner as any other overhead expense. In turn, its cost is reimbursed to the IF via a slight increase in the sales rate. Equipment purchased with IF resources with a useful life of more than 2 years and costing $1,000 to $5,000 (including that obtained under the Fast Payback Program) is depreciated over the useful life of the equipment with the depreciation charged to the customer accounts. The cost of this equipment, therefore, is reimbursed to the IF over its useful life.

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Industrial Fund equipment purchased with appropriated funds is currently acquired by the IF as a "free good", i.e., no payment from IF resources is involved. The equipment is justified in DOD's annual budget and, if approved and purchased, is issued "free" to the appropriate IF activity. The equipment is entered on the accountable records of the IF however, and depreciated over its useful life. The difference is that the depreciation charge for the equipment is considered an "unfunded cost" to DOD customers, is not charged to them and, therefore, is not reimbursed to the IF. Under current DOD rules, depreciation for this equipment is charged to all non-DOD customers, however, resulting in some amount being recovered by the IF.

Under the new initiative, direct Congressional appropriations would no longer be used to purchase IF equipment for most IF activities. Instead, IF resources would be used to acquire such equipment, including all related costs, e.g., transportation, installation, test, calibration, etc. All equipment costing $1,000 or more, with a useful life of more than 2 years, would be capitalized and depreciated over its useful life. The resulting annual depreciation charge would be added to the customer rates in order to recover the costs of the equipment. Items of equipment costing less than $1,000 which have a useful life of 2 years or less, will continue to be purchased with IF resources and expensed in the year acquired.

With the implementation of the new initiative, DOD's Fast Payback Program would cease. In addition, all other equipment productivity investment programs would cease for IF activities, except for those specifically excluded from the new program, e.g., the Airlift Service Industrial Fund (ASIF), etc.

Costs for repair, maintenance, modification, alteration and rehabilitation of IF equipment will continue to be charged to the IF and, generally, expensed, unless the work costs over $1,000 and results in an extension of the useful life of the equipment. In the latter case, the costs will be capitalized and depreciated.

b. Facilities

The only basic change of the new policy regarding facilities, and one that affects capital assets other than equipment, applies to minor construction (alteration, addition, expansion, extension and construction) of IF facilities authorized to be accomplished with OM funds. At present, the limit for such projects is $100,000. Under present procedures, an IF requiring the accomplishment of such a project has to obtain separate approval and direct OM funding; however, under the new policy, minor construction projects costing $100,000 or less in support of IF operations will be financed from IF revenues rather than from direct OM appropriations. (No specific Congressional approval is required for such projects. Existing legislation gives DOD the authority for the use of OM funds for minor construction projects costing $100,000 or less.)

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The new policy requires the costs of minor construction projects to be capitalized and depreciated under the same rules that apply to acquisition of capital equipment. In the future, therefore, the customer will also pay a higher rate to cover the depreciation of any such minor construction projects accomplished by IF activities. Excluded from the new policy, are the following types of minor construction projects for which the use of IF revenues are not authorized:

-- Those costing over $100,000, which by legislation must be financed with funds available only from Military Construction Appropriations.

-- Projects needed primarily at IF activities to meet mobilization requirements when there is no peacetime application.

-- For major range and test facilities.

-- For tenant activities or other military support functions of the IF.

-- For such other purposes as may be approved in the future by the Assistant Secretary of Defense (Comptroller).

The cost of repair and maintenance of IF real property will continue to be charged as costs to the IF and recovered from the customers as an overhead charge through an appropriate rate adjustment. Extensive anticipated costs for such work may be "financed" over a period of time rather than only in the year accomplished by applying a factor developed at the activity group level. Excluded from the new policy is facilities repair work costing over $100,000, involving damage caused by catastrophe or acts of God. This will continue to be financed from appropriated funds under legislation covering these circumstances.

c. Other Assets to Be Capitalized

The costs of developing and instituting management systems at IF activities are also to be capitalized and amortized over the estimated useful life of the system in a manner similar to that for capital equipment.

d. Other Significant Aspects

(1) Capital equipment is not to be fully depreciated while still in use. Any fully depreciated equipment is to be reevaluated before the start of FY 1983. A nominal or fair market value is to be assigned and the revised remaining useful life determined.

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(2) IF cash levels should be sufficient to assure 30 days cash availability including payment for equipment and the financing of items such as large outlays for repair and maintenance of facilities. Increased cash levels are to be attained through a rate increase to the IF customers. The rates are to be developed and controlled at the activity group level (the command level above the IF plant activity). Cash thus generated is to be capitalized.

In discussing the above guidance with OSD and other DOD officials, the Investigative Staff learned that while the Asset Capitalization Program was a factor in their determination to build up IF cash reserves, other factors were involved which made it prudent to insure the 30-day cash reserve. It was explained that in the early 1950's when the IF's were established, they were provided with 30 days' cash, as part of the working capital fund, to pay their bills. Since then, inflation has seriously eroded this 30-day cash position. In addition, before FY 1981, no cash infusion had been requested or received from the Congress. In FY 1981, the Congress authorized a cash infusion of some $100 million which showed up in the IF accounts as an increase in profits because of the way it had to be handled. However, what focused the issue for DOD officials was that in early January 1982, because of a set of "unusual circumstances," the Navy's cash reserves dwindled to a dangerously low level of "less than 3 hours" cash availability. The circumstances involved, the Investigative Staff was told, related to a combination of factors including Christmas vacations, end-of-year plant shutdowns, and bad weather which caused employee absences. During this time, payments for employee salaries and supplies continued, but billings to customers for progress payments for work completed were not, ergo the low cash level.

(3) Reserves in the capital accounts of the IF are to be established for real property maintenance expenses, capital equipment purchases, minor construction and for such other purposes as may be approved. For the first time, under the new capitalization program, OSD is establishing cash reserves for the IF.

e. Visability, Management Oversight and Control

Based on numerous discussions with IF plant officials, the process by which the IF activity manager obtains equipment through the direct appropriations route can best be described as: long; arduous; multi-layered; time-consuming; generally disappointing with regard to results; replete with roadblocks which can side-track or reduce his requirements for any number of reasons; and one over which he has little influence or control. Almost to a man, these officials bemoaned the fact they were being held responsible for operating their facilities on an efficient and economical basis, but they had no control and

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little influence over modernizing their plants to meet these objectives. Moreover, under this process, it is extremely difficult for plant managers to include in their production planning, the availability of new equipment. One official characterized the situation as, "putting a fighter in the ring with one hand tied behind his back." Another described it as "telling your wife she had $100 a month for food, when she needed $200, and then you only gave her $42." In effect, the management functions of operating an IF activity under current procedures, are essentially separated from the programming and budgeting for capital equipment.

To better understand the process, the Air Force procedures for obtaining IPE serve as an illustration. Typically, the Air Force IF plant manager determines his equipment requirements, usually for a 5-year period in conjunction with the development of the Five Year Defense Plan (FYDP), based upon all the expertise and knowledge available (how the individual equipment requirements are determined are discussed in Section VII). At the start of the budget process, the activity manager is generally provided with a fixed budget planning figure for IPE for the budget year. The dollar level has been established by a higher echelon based upon the competing requirements for procurement appropriations throughout DOD, and represents the activity's share of the Air Force IPE budget. This amount is usually such that only the highest priority requirements can be included in the budget submission. After submission of the equipment budget and individual item justifications, the activity manager has very little influence over what happens. Moreover, the results of the process will not be known until the end of the budget cycle, 1 to 2 years later. Therefore, planning for receipt and installation of new equipment also becomes difficult.

At the next higher level, activity requirements are reviewed and consolidated with the requirements of the other plants in the activity group, and adjusted as necessary. The review is conducted by the offices responsible for equipment management, budget, depot maintenance requirements, production and others. For depot maintenance activities in the Air Force, this level is Headquarters, AFLC.

The next review is at the Air Staff/Secretariat levels. At these levels a review similar to the one described for AFLC is conducted during which the IF plant manager's equipment requirements are again subject to adjustment as the proposed funding levels and competing requirements dictate. At the conclusion of these reviews (with some luck), some of the IF plant manager's list of equipment requirements will be included in the President's budget and submitted to Congress. Subsequent to Congressional approval (or change) it will be known what equipment has been approved and funded for each activity.

The Air Force example is illustrative of the multilayered reviews involved in obtaining equipment from Procurement Appropriations. However, in the Navy, there is one additional

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review level, the Naval Material Command (NAVMAT). In the Army, for depot maintenance activities, the multitude of players involved in equipment acquisition above the activity group level (DESCOM) almost defies description. Suffice it to say that after several technical agencies have reviewed the DESCOM equipment requirements, the equipment to be used for a specific maintenance program (e.g., tanks, electronics, aviation, ammunition, etc.) is submitted for review and approval to the Materiel Readiness Command (MRC) which has workload responsibility for that program, e.g., in the case of tanks, the U.S. Army Tank-Automotive Materiel Readiness Command. Subsequently, all the different MRC's forward their consolidated equipment requirements to DARCOM for a review similar to the one conducted at AFLC for the Air Force. Beyond DARCOM, the Army process is the same as that of the Air Force above AFLC level.

Further illustrating the complexity of the process, it was noted that the Army has 24 documents that are used in the capital equipment procurement process! Moreover, not only do the MRC's get into the review and approval process, but once the procurement funds are approved they are funneled down from DARCOM to each appropriate MRC, which in turn, passes the funds to DESCOM--a manifestation of the worst of a bureaucracy.

(1) Industrial Fund Equipment Approval Authorities

As part of the new Asset Capitalization Program, OSD has changed its equipment approval and funding process. Under the new policy, IF activities would still be required to develop budgets for replacement equipment to be purchased (ordered) for the budget year. The budget would still be submitted to OSD, but no lists of equipment would accompany it. These amounts (or levels of funding) would be reviewed and approved by OSD and may not be exceeded without its approval. (Separate justification would have to be submitted to OSD for approval for equipment which is primarily intended to increase either capacity or capability, since the intent of the new policy is to improve the effectiveness and productivity of existing operations.) OSD recognizes that some oversight responsibility by the intermediate echelons (services, activity groups, etc.) would still be required relative to equipment budgets and purchases; however, definite policy guidance has been issued that within approved equipment budget amounts, authority to determine specific equipment purchases is encouraged to be retained at the activity level. The OSD guidance further requires that capital equipment purchases are to continue to be adequately documented at the activity level, including all justification and economic analyses, to insure that post-investment appraisal and audit can be performed.

OSD representatives explained that there would be no requirement to forward lists of equipment because one of the objectives of the new policy is to relegate the maximum possible decision-making authority to the IF activity manager. Only then can the activity manager be truly held accountable for results.

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However, OSD states that they will review what equipment has been bought, the benefits being derived, and other factors during subsequent budget reviews, and will take these factors into account in reviewing and approving future equipment obligation authority (the level of equipment which can be ordered during the fiscal year).

Not surprisingly, the Investigative Staff found enthusiastic support at the IF activity group and plant level for the OSD initiative which encourages decentralization of equipment approval authority to the plant level. This new approach is expected to not only greatly increase flexibility and to allow for more timely installation of replacement equipment, but is also expected to appreciably reduce the paperwork involved. In the Army, for example, DESCOM expects to reduce the paperwork flow above the depot level by about 80 percent.

In general, under the current policy, plant level managers have only limited approval authority to purchase equipment, in some cases up to $1,000; in others up to $5,000. The following are the plant level approval authorities under the new Asset Capitalization Program as proposed by:

Service	Cost
Army (DESCOM activities only)	Up to $50,000
Navy	Below $300,000
Air Force (AFLC organizations only)	Up to $100,000
Marine Corps	Up to $25,000

In the Army, approval authority for equipment above the plant level; i.e., DESCOM has not yet been determined. In the Navy, approval authority would be at the activity group level (NAVAIR, NAVSEA) for items of equipment costing between $300,000 and less than $1 million, with the Navy Comptroller approving those items $1 million and above. In the Air Force, AFLC would have approval authority for items of equipment costing over $100,000. Marine Corps Headquarters would retain approval authority for items of equipment costing over $25,000, but would require that the depot commander identify the items of equipment to be purchased costing below $25,000.

OSD officials point out that the new policy is in line with current Department of Defense management philosophy; i.e., providing the resources and authority necessary for operators to accomplish their missions with minimum interference and oversight while holding them responsible for results. The new policy should reduce the bureaucratic and perhaps arbitrary decisions of higher levels while allowing those responsible for output a much greater decisionmaking role in equipment acquisition.

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Moreover, it would allow the IF manager to have increased influence over those equipment purchases requiring approval above the activity level, because there will no longer be competition with the other demands for procurement funds.

(2) Disguising Defense Priorities

At the IF activity level, the new policy is not expected to disguise Defense priorities for equipment or other requirements, but, as indicated above, should insure to a much greater extent, that the activity manager's needs are met. Above the plant manager level, visability over IF equipment acquisition programs as part of the budget cycle will be greatly diminished at all the higher levels, except after-the-fact; however, this concept is in line with top level OSD's management philosophy. In addition, the new policy does not mean that the detailed information regarding equipment cost, justification, economic analysis, etc., will not be available to any responsible official or echelon of command for whatever purpose it may serve; it will only mean that such information will not routinely be elevated through the DOD hierarchy.

There is another side to the issue of Defense priorities being disguised as a result of the new capitalization policy. This relates to the obligation authority levels for IF equipment in the Procurement Appropriations in previous Defense budgets. Because the source of funds for PE has been changed under the new policy, it could be argued that Defense priorities are being disguised in that more latitude will now be available in the Procurement Appropriations for the purchase of previously unfunded, lower priority items, e.g., weapons systems, etc. Moreover, those Appropriations would no longer accurately reflect the actual funds approved by the Congress for the acquisition of capital assets. Similarly, on the OM side, it could be said that priorities would be disguised by the shift in funds. This could be said because programs which would have been funded before the shift may not get funded since the customer appropriations (OM) must pay the additional cost to purchase IF equipment. This is generally not the purpose of the OM Appropriations, as the title implies. On the other hand, the overall Defense budget is not significantly affected in the near-term because of the new policy. Later, assuming the previous funding level for IF equipment is used for other requirements (all else being equal) under the OSD plan, in all probability the customer accounts, primarily the OM Appropriations, would increase, as would the overall Defense budget (explained later in the report).

However, OSD officials do not consider that Defense priorities will be significantly disguised by the new policy. They point out that the IF activity manager's equipment requirements should be met under the new policy. Further, that it would provide more visability for IF equipment purchases since these were previously disguised when integrated with all other

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equipment acquisitions in the Procurement Appropriations. Moreover, while some service priorities may be disguised below the departmental level due to the additional availability of obligation authority for procurement funds, the issue is basically irrelevant because the primary funding control on the services and OSD is on total annual outlays. This means that regardless of obligation authority, Defense priorities are established based on the projected outlays for the year. Also, since Congress approves the total annual DOD outlays, which include the total outlays of the IF, the new policy would not disguise Defense priorities.

(3) Controlling Possible Abuse

Since the new program diminishes control and oversight by higher DOD echelons, the Investigative Staff explored areas of possible abuse. The consensus in DOD seems to be that with the existing controls including technical agency reviews, preparation of economic analyses, higher headquarters monitorship of funding, its retention of higher cost equipment approval authority, and OSD's requirement for after-the-fact review, the probability of abuse of the system in terms of buying unnecessary or "gold-plated" equipment would appear to be minimal. In addition, it was pointed out that the IF rate structure is approved by OSD thereby establishing an additional check to insure rates are not increased unjustifiably due to equipment purchases. It was also explained that competition for work, especially from private contractors, will serve as a "self-policing" mechanism to control rates thereby further ensuring unwarranted equipment purchases are not made.

It should be noted that OSD officials repeatedly stressed during the course of the review that the equipment capitalization policy involves only the financing of IF capital equipment purchases, and that IF activities would continue to comply with all DOD, Congressional and other requirements regarding approval, management, and restrictions relative to acquisition.

2. For the Congress

Under the Asset Capitalization Program, the Congress, as part of the annual submission of the President's budget, will continue to receive all the same information for proposed equipment acquisitions as before, except for IF equipment. (It should be noted that since IF equipment was integrated with all other equipment requirements, specific identification of IF equipment in the normal budget documents forwarded to Congress was not readily apparent.) In addition, the new policy means that Congress will no longer have direct oversight over the equipment to be purchased with industrial funds nor will it routinely be informed of any of the particulars (funding levels, number of items and types of equipment to be procured, etc.). However, Congress will receive data on the total net value of the equipment stock

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as part of DOD's annual report on the IF. The total value of the new equipment installed minus the depreciation will provide Congress with the net change from the previous year.

E. Is Congressional Approval Required?

An OSD representative advised that DOD had purposely included the new initiative in the FY 1983 budget for Congress' information since this is the normal manner by which Congress is informed of such new programs. This was done because the Department did not want to implement the new program outside the Congressional review process. The OSD representative also stated that the new initiative had been reviewed and cleared by OSD Counsel prior to approval by the Deputy Secretary of Defense. Specifically, OSD Counsel's position is that:

> "Section 2208(c) [Title 10, United States Code] provides that working-capital funds are to be 'reimbursed from available appropriations or otherwise credited for [certain specified] costs, including applicable administrative expenses and costs of using equipment.' (Emphasis added.) This, as well as the general broad authority contained in section 2208, provides the legal authority to recover, in charges made to customers, an appropriate amount associated with the cost [of] using equipment, i.e. depreciation that reflects the cost of the purchase of such equipment."

OSD therefore believes the authority exists to implement the program. It was also stated that IF regulations are being revised to reflect implementation of the new policy.

On the specific question of whether or not Congressional approval was required to implement the new program, OSD representatives indicated that specific approval was not required. If Congress accepted the switch in funds from the Procurement Appropriation to the customer accounts (primarily the OM appropriations) in FY 1983, it will have sanctioned the new initiative. OSD representatives also pointed out that Congress had not objected to the implementation of the (equipment) Fast Payback Program, some years back, a program similar to this initiative, and as a result, could see no reason why Congress should object to the new policy. However, if Congress did object to the new initiative and decided to forbid its implementation, OSD representatives hoped that at least Congress would return the OM funds to the procurement accounts in order for DOD not to lose a year of equipment procurement funding thereby causing further deterioration of its industrial plants.

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F. Why Is the Program Being Implemented Now?

The Deputy Secretary of Defense in approving the new program, stated that it was being implemented as part of an effort to increase efficiency and enhance productivity within DOD. Further, according to OSD officials, there were a number of other factors which influenced the decision, including outmoded equipment resulting from consistently low levels of past investments; the difficulty of increasing future procurement levels when other, higher priority requirements are competing for funds; the success of, and experience gained with, the Fast Payback Program; and the more pro-Defense mind-set of the new Administration and the Congress. In essense, OSD officials said, " * * * it was a program whose time had come."

When the prior low levels of equipment investments from Procurement Appropriations were provided as justification for the initiation of the new policy, the Investigative Staff challenged the point. Conceivably, OSD need not have changed the policy to correct the situation since it was within their purview to rectify it by adequately and specifically funding the needed IF equipment. The Secretary of Defense could have directed that sufficient funds be included in the budget for IF equipment purchases each year. No Defense official with whom this was discussed disagreed with the Investigative Staff assessment; however, as one OSD official stated, in view of the overall priorities and limited availability of funds, PE funding has always "given way to funding of more 'sexy' items, such as aircraft and missiles."

G. The Military Services' Position

Early in the study OSD officials stated that they believed the closer in the chain-of-command one got to the IF plant activity, the more enthusiastic would be the response to the program. This proved to be the case. At the IF activity and activity group level the Investigative Staff found complete and enthusiastic support for the new program.

At the departmental levels, a more mixed reaction was evidenced ranging from enthusiastic in the Navy to lukewarm in the Air Force. The Army still believes the new policy should include equipment for their industrially funded supply function, but considers the new policy a step forward toward improving the efficiency and effectiveness of their IF activities and in achieving a more business-like approach to equipment acquisition. The Air Force originally had serious reservations about the new policy and some reservations still remain. Its most serious objection related to the original inclusion of ASIF in the program. ASIF was subsequently excluded at their insistence. Air Force officials believed that inclusion of ASIF in the program would make its rate schedules overly high for the services provided and might lead to other problems as well. The Air Force also objected to including weapons system "peculiar" equipment (equipment unique to a given weapons system) under the policy contending

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that such equipment should continue to be provided to the maintenance activity by the weapons system manager. The Air Force position was that this type of equipment should be excluded in order for the depots to remain competitive. This point was made in light of the fact that contractors do not purchase such equipment but receive it as Government Furnished Equipment (GFE). OSD, therefore, revised its original policy to allow the weapons systems managers to continue funding such equipment. Nevertheless, the Air Force still has some concerns, specifically regarding:

-- The effort required to implement the new policy in view of the limited time available.

-- The policy continuing the trend toward migration of funds from other appropriations to OM Appropriations. Officials cited several cases such as the funding of the Eastern and Western Test Ranges (previously funded from RDT&E Appropriations) and service and engineering efforts (previously financed with procurement funds). Concern is that when OM funds are reduced, competition for these dollars will become even greater because the migration increases the number of requirements for limited OM resources. The increased rates to be paid by OM customers under the new policy would further diminish OM funding flexibility and could create future workload backlog problems in the IF.

-- The belief that it would be paying a disproportionate share of the Army and Navy IF equipment modernization programs for Air Force work done by Army and Navy IF activities thereby subsidizing these modernization efforts.

In general, however, all four military services support the new policy.

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VI. WHAT PROBLEM IS DOD TRYING TO CORRECT?

DOD's primary purpose in implementing the new Asset Capitalization Program is to modernize the obsolescent and, in some cases, inefficient industrial plants and equipment currently in operation. According to DOD officials, this situation has resulted from previous inadequate levels of funding for replacement equipment in the Procurement Appropriations.

A. OSD's Perspective

OSD identifies the problem as follows:

> "Currently, many of the Department's Industrial Fund activities fail to achieve more efficient operations due, in part, to outdated facilities and equipment. Additionally, under current financial management practices investments at our Industrial Fund activities are fragmented into different programs, many of which have been beyond the control of the Industrial Fund manager. Further, the long lead time, and other requirements of the budget process restrict the effectiveness of equipment purchases in terms of the timeliness and the desired flexibility of the decision process. These factors have all contributed toward an inadequate level of investment in the Department's Industrial Fund activities.
>
> "In large part, the absence of needed capital investment in the Department's Industrial Funds stems from a separation of responsibility for the operation of Industrial Fund activities from the responsibility for programing and budgeting for necessary equipment purchases and other capital assets. While normal operating costs of Industrial Fund activities are under the purview of the Industrial Fund activity commander, most items of capital investment are not. Since investment items are financed largely by appropriated funds, primarily procurement appropriations, the need to update equipment and facilities at the Department's Industrial Fund activities competes directly with the procurement of ships, aircraft, and other weapons. While our ability to repair and maintain weapon systems in a high state of readiness is obviously important, the need to update Industrial Fund facilities generally has not successfully competed with these other requirements. Providing for capital investments at Industrial Fund activities to be financed through Industrial Fund resources would remove these investments from direct competition with weapon systems and would provide managers of Industrial Fund activities a greater influence over the investment items which are financed. Financing capital investment through Industrial Fund resources would also allow Industrial Fund activities to operate more nearly as a business. This action is anticipated to create a financial management

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> system which will provide incentives to encourage the investment of capital in our Industrial Fund activities. Such action is necessary to achieve more efficient and productive operations at Industrial Fund activities."

B. Previous Industrial Fund Equipment Funding Levels

When requested to provide definitive information on the previous "inadequate" levels of funding and the specific requirements for IF equipment over the past 5 years, DOD officials indicated the data was not available without extensive research and effort. The Investigative Staff was advised that the Procurement Appropriations budgeting process made it difficult to correlate previous IF equipment acquisitions with the proposed new method. In effect, under the Procurement Appropriations budgeting process, the various IF equipment categories are consolidated with similar equipment requirements from all other sources (installations, military units, intermediate maintenance activities, etc.) and therefore, lose their identification with the IF. Despite these difficulties, OSD did provide to the Investigative Staff in late May 1982, its best estimates of the past fiscal year's Procurement Appropriations IF equipment funding levels as follows:

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SUMMARY OF DOD INDUSTRIAL FUND EQUIPMENT PURCHASES
FY 1978 through FY 1982
(Dollars in Millions)

	Army	Navy/ Marine Corps	Air Force	Total
FY 1982				
Industrial Fund Resources [1]	14	4	8	26
Appropriated Fund Resources	185	126	35	346
Total ----------------	199	130	43	372
FY 1981				
Industrial Fund Resources [1]	7	9	2	18
Appropriated Fund Resources	191	91	34	316
Total ----------------	198	100	36	334
FY 1980				
Industrial Fund Resources [1]	3	19	1	23
Appropriated Fund Resources	122	95	29	246
Total ----------------	125	114	30	269
FY 1979				
Industrial Fund Resources [1]	1	8	*	9
Appropriated Fund Resources	57	112	23	192
Total ----------------	58	120	23	201
FY 1978				
Industrial Fund Resources [1]	*	5	*	5
Appropriated Fund Resources	74	113	19	206
Total ----------------	74	118	19	211

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* Less than $1,000,000

[1] Fast Payback Program

The above data cannot be considered useful in determining whether or not past IF equipment funding levels have been inadequate. These data are lacking in terms of what the equipment requirements were in these years in order to attain/retain some defined equipment status goals. Although DOD states it has a problem regarding IPE, one cannot look at funding levels alone and conclude that they were in fact, inadequate. Therefore, it was impossible to substantiate DOD's contention regarding the past years' "inadequate" levels of IF equipment replacement funding on the basis of the preliminary information made available early in the investigation (estimates for FY 1981 and FY 1982) or the more accurate and comprehensive data provided just before its completion (previous table).

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Accordingly, the Investigative Staff pursued the issue of prior levels of equipment funding during its visits at the activity group (headquarters) and activity (depot) levels where the required information was readily available. At AFLC, prior to the announcement of the Asset Capitalization Program, it was learned that based upon constrained funding for FY 1983, AFLC's approved funding level for just two categories of equipment--IPE and Material Handling Equipment (MHE)--was $42.9 million. This was about 10 percent lower than the $47.9 million it was planning to expend based upon previous funding levels for these types of equipment, but only about 54 percent of the $80 million that was considered to be needed. For that fiscal year, 1983, AFLC considered it needed about $125 million for the purchase of all IF equipment required by its depot maintenance activities.

Discussions at DESCOM reinforced the view that IF equipment funding levels have been inadequate. For the 5-year period FY 1979 to FY 1983 (again, before the new policy) DESCOM had equipment replacement requirements of $171.7 million and received approval for funding of only $46.5 million or 27 percent of its requirement.

A similar situation was found to exist at NAVAIR. In FY 1980, NAVAIR received only about $8.5 million for IF replacement equipment or 68 percent of its requirement of $12.5 million. In FY 1981, it received about the same amount. Because of consistent shortfalls over the years, NAVAIR considers that it has a cumulative deficit of IF equipment replacement funds of about $85 million. Actually, the overall lack of equipment funding was more serious. In FY 1980, the command had a total (replacement and all others--new, increased capacity, etc.) IF equipment requirement of $30.8 million, but received approval to budget only $19 million or 62 percent of its total requirement. In FY 1981, the results were not much different--$32.8 million required, compared to $20 million approved.

Accordingly, the Investigative Staff did establish, at least for those IF activities reviewed, that past funding levels for IF equipment were inadequate to meet equipment requirements (assuming those levels were indicative of the levels in the recent past, as was indicated).

C. What Should Industrial Fund Equipment Funding Levels Be?

IF equipment funding levels should correctly be based upon a number of pertinent factors such as the overall size of the equipment inventory, its age, its technological obsolescence, the desired degree of modernization, etc. For its part, the Navy cited private industry's indicator of annual capital investment being 8 percent of annual sales (verified in the April 19, 1982, issue of Business Week) and that their rule-of-thumb is 5 percent. Admittedly, capital investment includes plant and equipment. However, if the 5 percent criterion were used, the DOD IF

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equipment acquisition levels for FY 1981 and FY 1982 should be in the neighborhood of $968 million and $1.04 billion, respectively, rather than the actual amounts of $334 million and $372 million, respectively. Also, on the basis of this criterion, DOD's capital investment for these same 2 years was only 1.7 percent and 1.8 percent.

D. Quantitative Equipment Data Lacking

The Investigative Staff also pursued the cause/effect relationship of the previous equipment funding levels. The subject was discussed at length at each of the senior DOD levels including OSD, Army Staff, DARCOM, NAVMAT, NAVSEA, Air Force Staff and Headquarters, Marine Corps. Quantification of the impact of the previous "inadequate" levels of IF equipment purchases was desired. Many verbal descriptions were provided such as, "our equipment is outmoded, outdated and old;" "the age of DOD's industrial plant is 25 years;" "shipyard cranes are 30-40 years old;" "some equipment was installed in 1903;" etc.; etc. This issue, however, proved to be one of the more contentious issues of the study because no one at the senior management levels could quantify or further explain the equipment status problem that would be solved through the new initiative. (A study on the vintage of the Army's IPE was "revealed" by the Army Staff during an interview and mentioned further at DARCOM. However, when the Army Staff was asked what the findings of the study were and what was done about them, there was little comment. The Investigative Staff reviewed the study and found it to be extremely enlightening as to the status of the Army's IPE, but concluded that it was not used at the senior levels of the Army for any meaningful purpose. However, the study was very effectively used by DESCOM as a guide in identifying its equipment status.)

It was disconcerting to learn that DOD had approved the initiation of such a large capital investment program without the benefit of the necessary documentation to quantify the equipment condition to be corrected. It may well be that DOD's industrial plants and equipment are "old and outmoded," but supporting documentation of these conditions should have been prepared and readily available to justify the need and to establish a base line against which future progress could be measured. It would not appear unreasonable to expect DOD to have established a means by which program progress could be measured. However, no uniform system for determining the status, or profile, of DOD's IF equipment, or to monitor program progress, was found to be available.

Had data on DOD's equipment profile not been fairly readily available in DOD (DIPEC), at least for the important IPE segment, the Investigative Staff would not have been so concerned by this lack of supporting information at OSD level. It seemed very clear that the Investigative Staff was the only organization with sufficient interest in the new equipment capitalization program to, in some way, attempt to quantify the problem. The profile of

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DOD's IPE may also be useful in dispelling some of the erroneous perceptions of DOD's IPE stock provided by Defense officials in previous Congressional testimony and in various reports reviewed during the investigation. The data obtained on the status of equipment relates to all IPE of the Army, Navy, and Defense Logistics Agency and is, therefore, considered to be representative of DOD's IPE stock. Air Force IPE equipment status was not available from the same DOD source (DIPEC), but was obtained from AFLC based on a recent one-time, ad hoc study. By the same token, it was found that definitive information on other categories of equipment such as OPE (MHE and vehicles) was difficult to obtain on an aggregated basis within DOD, probably because of the past lack of attention and uniform guidance in terms of categorization, management, etc. While DOD directives prescribe policy and guidance in the management, inventory reporting, central control and other aspects of IPE, which is why the data was successfully obtained, no such directives for OPE were found to exist. There is no doubt, therefore, under the Asset Capitalization Program, DOD will have to prepare and issue similar guidance on OPE if any measurement of the program to correct this part of the equipment problem is to be possible. The data the Investigative Staff obtained on the status of DOD's IPE is displayed in Section VII of this report.

One Defense official rationalized the failure of his organization to have data available on its equipment status by questioning, in effect, why any of the limited available resources should be spent to find out the exact profile/status of the equipment, when, in terms of the fiscal realities involved, it was known that very little Procurement Appropriations funding for replacement equipment would be made available. This explanation is probably closer to the real answer than any other received concerning the lack of equipment profile data.

Contrary to the situation found at the senior management levels of DOD, each of the IF activity groups and/or activities knew the exact status of its IF equipment; however, because no uniform system for determining equipment status is available within DOD, each uses a different approach. This severely limits the ability to draw meaningful comparisons with other similar DOD IF activities, e.g., ALC's with NARF's. The information is, therefore, valid only for the particular activity. The following are examples of the equipment status of several IF activity groups/activities.

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IF Activity Group/Activity	IF Equipment Profile
DESCOM	Machining Equipment--average age - 15 years; economic life - 10 years. Electronic Equipment--average age - 9 years; economic life - 7 years. All Industrial Equipment--79 percent over 10 years old.
NARF, Norfolk	Average age of PE is 13.5 years; estimated average service life, 11.5 years.
Navy Shipyard, Norfolk	Average age of PE, less vehicles and MHE, is 18 years; estimated average service life, 16 years.
AFLC	Average age of IPE is 9.5 years; estimated useful life, 19 years.

The above AFLC data was based upon a one-time, 1981, ad hoc study which sampled various items of equipment. In discussing the average of age of their equipment with representatives of the Oklahoma City ALC, they took issue with the results of this study for their activity (9.78 years) and indicated their equipment was older. Based upon a review of output from AFLC's automated system, the Investigative Staff also tends to question this figure. However, Air Force Staff members believe that their equipment is newer compared to the other services, attributing this to the large, $368 million depot consolidation and modernization program approved in the early 1970's, of which $200 million was for equipment. As a result, over 3,000 personnel spaces were eliminated thereby providing a 10-year payback for the program.

The average age/useful life factor of equipment is used by many Government and private sector organizations as an indicator of equipment status. Any time data is averaged, however, masking of significant information results. The average age indicator is no exception. Moreover, distortions or misleading information results from aggregating many dissimilar categories of equipment to provide the average age of all equipment. This is particularly so when different types of equipment have varying useful lives. An example would be averaging the age of a turret lathe with a useful life of 17 years with an item of test equipment such as a calorimeter which has a useful life of only 8 years. The results of this are of doubtful utility.

A case in point regarding misleading data caused by "averaging" is the Inside Machine Shop (#31) at the Norfolk Naval Shipyard.

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This case illustrates the debilitated state of equipment in the Norfolk Shipyard and other DOD activities--illustrations DOD officials use to plead their case for support of the new policy. This shop is one of the largest in the country with 460 machine tools under one roof which covers 10 acres of floor space. The shop operates three shifts a day and has a work force of 720 employees. While the average age of all the equipment (less vehicles and MHE) for the Norfolk Shipyard is indicated to be 18 years (above), the average age of the 460 items of machine tools in Shop #31 is 32 years. The oldest machine in the shop is 60 years old. The bulk of these machines are of 1940 and 1950 vintage and were not designed for the exotic metals and high speed tooling used today. They are outdated and manufacturers no longer produce many of the needed replacement parts. The machines are worn out and no longer hold specified tolerances. For these reasons they are grossly inefficient, but even more serious, approximately 85 machines are inoperable each day. Unless something is done to provide replacement equipment in the next few years, Shop #31 is expected to lose 50-60 percent of its capabilities. This will seriously affect the shipyard and its capability to meet scheduled ship overhauls.

E. DOD's Plan to Correct the Problem and What Will It Cost?

In order to develop a plan of corrective action, the scope of the problem must be known. As indicated above, DOD has not quantified its PE problem and, therefore, has not developed a plan with definitive objectives, goals, and investment levels needed for its correction. OSD states, however, that it has objectives for the new policy. These were included earlier in the report. However, they are general in nature and unrelated to any specific equipment status or improvement plan.

Just prior to the completion of the study, the Navy provided its equipment goals as follows:

- -- 10-year average for major IPE
- -- State-of-the-art industrial processes

Navy stresses that it must be understood that goals are not static, but are dynamic and fluctuate with workload and changes in production capabilities and capacities. The Investigative Staff fully appreciates that goals are dynamic and was pleased that at least one service outlined some specific equipment goals. However, still missing is the base line against which these goals should be measured, the length of time needed to reach the goals, and their cost. It should also be noted that at the IF activity group levels such as DESCOM, NAVAIR, NAVSEA, and AFLC and at the activity levels visited, all the necessary data for program development existed, i.e., equipment status, goals, investment levels, time frames, and costs.

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Because OSD also does not have a precise estimate as to what will constitute achievement of the long term goal of a modernized industrial base, it could not provide an estimate of the total cost of the program. OSD officials stated that they have identified no equipment status goals which would represent modernized industrial plant facilities. They stated they "have only conceptionally developed the policy and believe it will work." It is acknowledged that higher levels of investment will be required for a number of years to modernize the plants and, that to retain this modernized base, investment levels will have to be maintained at a higher rate than in the past.

For FY 1983, OSD has established an obligation authority of $706 million for the IF activities authorized to acquire equipment under the Asset Capitalization Policy. Another $66 million from direct Procurement Appropriations is expected to be used for equipment acquisition for those IF activities not covered by the new policy, e.g., ASIF. The IF equipment obligation authority has been allocated to IF activity group levels. OSD officials have stated that they intend to maintain this general level of obligation authority, and possibly higher, each fiscal year until at least FY 1987. In view of the above, it appears that an open-ended program in excess of $3.5 billion is being established.

OSD advised that the anticipated dollar level for equipment was originally developed on the basis of submissions by the military services as to what each believed was required for equipment modernization under the new policy. However, when these amounts proved to be excessive, OSD worked with the services to develop a level of funding which was deemed affordable. In addition, estimates were made as to the amount of equipment which could actually be ordered during the year. The two were then balanced against the impact of the resultant increased customer costs. Basically, therefore, the initial level of obligation authority for FY 1983 of $706 million is not based on any goal related to equipment status, but rather it reflects an arbitrary amount developed by the interested DOD offices on the basis of these various constraining factors. The $706 million obligation authority established by OSD is composed of ceilings for equipment acquisition for each activity group of the IF as follows:

DEPARTMENT OF DEFENSE INDUSTRIAL FUNDS

FY 1983 EQUIPMENT PURCHASES
(Dollars in Millions)

	Approved Obligations FY 1983
Army Industrial Fund	
Armament Command	63
Depot Activities	102
Missile Command	14
MTMC	*
Research and Development Activities	46
Total	225
Navy Industrial Fund	
Aircraft Rework Facilities	72
Military Sealift Command	-
Ordnance Activities	55
Printing and Publication	3
Public Works Centers	7
Research and Development Activities	69
Shipyards	145
Total	350
Marine Corps Industrial Fund	
Depot Maintenance	5
Total	5
Air Force Industrial Fund	
Airlift Service (MAC)	-
Depot Maintenance	124
Real Property Maintenance	1
Laundry/Dry Cleaning	*
Total	125
Defense Industrial Fund	
Communication Services	1
Clothing and Textile Center	*
Total	1
Total DOD Industrial Fund	706

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* Less than $500,000

Amounts may not add due to rounding

F. How Will DOD Pay for the Cost of Correcting the Problem?

Financing the IF equipment modernization program under the new DOD equipment capitalization policy involves the availability of obligation authority to order the equipment in any one fiscal year; the expected equipment delivery schedules; and payment for the deliveries.

1. Obligation Authority for Industrial Fund Equipment

OSD uses the term "obligation authority" (OA) for the IF equipment acquisition level of $706 million it has approved for FY 1983. This means that IF activities cannot order more than this amount of equipment during FY 1983 without OSD approval. Actual payment for the equipment ordered in FY 1983 would generally be made over a 3-fiscal-year period, i.e., FY 1983, FY 1984, and FY 1985, with the largest outlays expected in the second year. This outlay schedule would also apply to FY 1984 equipment orders. Assuming that the same general OA levels as in FY 1983 continue at least through FY 1987, as OSD has stated, the peak outlay for equipment under the new policy would be reached in the third year (FY 1985), when the residual FY 1983 orders, the bulk of the FY 1984 orders and the initial FY 1985 orders would all have to be paid. At that time under the conditions stated, outlays for the entire $706 million would be due and the Defense budget would be increased by this entire amount. It should be noted that during the initial period before OA and total outlays for equipment are equal (FY 1985, based upon the data provided by OSD) the entire Defense budget in terms of obligation authority would be larger than that approved by the Congress, e.g., by about $465 million for equipment acquisition in FY 1983. However, OSD points out that this is not unusual but normal for IF operations and would occur even without the new policy. The use of carry-over IF unobligated balances to acquire supplies and services in the next fiscal year is cited as an example. Also, as mentioned in the previous section, the new policy does not result in outlays in excess of those approved by the Congress.

From FY 1985 on, if the $706 million OA level is continued until FY 1987 or later, the annual outlays for equipment would be $706 million until the lag resulting from any change in level catches up. At that point, obligation authority for equipment in excess of that approved by the Congress would no longer exist since Congress approves Defense outlays, as explained earlier. OSD officials made the point that if inflation is discounted, the Government would pay no more for the equipment ordered under the capitalization program than before, and further, that what had been done is actually the reallocation of equipment costs into many different appropriations (customer accounts being charged for equipment purchases) and in different time periods. However, once the initial, lower level outlays are over, about the third year, the bill for the entire $706 million equipment order would have to be paid through customer appropriations or some other way, each year thereafter for as long as that level of obligations continue. Assuming the customer would pay these equipment costs, using FY 1983 data, the major appropriations that would be affected would be: OM--63 percent; Procurement--11 percent; and RDT&E--15 percent. On this basis, in FY 1985 and beyond, the cost to these customer appropriations would be (dollars in millions): OM--$445; Procurement--$78; and RDT&E--$106. A certain portion of this cost would be collected as a depreciation charge for the in-place equipment which for FY 1983 is estimated by OSD at $241 million. The additional amount would be provided by other means, but in all likelihood by the customer, as discussed later in this section.

It could be said that, in effect, OSD has "manufactured" the OA to be used for IF equipment orders. OSD's position is that under legislation authorizing the Working Capital Funds (10 U.S.C. 2208) and its implementing directives (scheduled for revision to reflect the new Asset Capitalization Program), it has the authority to obligate IF revenues for these equipment purchases, the same as it has for ordering supplies and services. It is contended that existing unobligated balances of the IF can be used initially for this purpose. Unobligated balances result from funded project orders from customers for specific work, all the costs for which have not yet been obligated. As a result, unobligated balances are generally available varying only as to amount depending upon the point in time reviewed. For example, at the end of FY 1981, the DOD IF had a carry-over unobligated balance of about $3.2 billion; at the end of FY 1982 it is expected to be $2.8 billion; at the end of FY 1983, $2.2 billion. The amount of unobligated balances at the end of FY 1982 would appear to be sufficient to provide, at least, an initial source of obligation authority for IF replacement equipment orders under the new policy.

However, discussions with OSD also indicated that any properly authorized and funded project order(s) received by an IF activity in FY 1983 could be used to provide obligation authority for ordering the IF equipment under the new policy, provided the IF activity did not incur obligations beyond the total obligation authority available from all sources (i.e., Appropriations and others such as FMS). There is some question as to whether or not DOD, under appropriations accounting procedures, can use obligation authority intended for specifically ordered work to place orders for unrelated equipment. Basically, DOD would be using such obligation authority to order equipment, in advance of future payments, i.e., collection of sufficient revenues from depreciation and other equipment related charges in the future to cover the payment for the equipment to be delivered. Again, OSD rejects this thesis on the basis that it is no different than the IF using the obligation authority provided by a funded project order to order supplies not necessarily related to the work specified by the project order. In fact, OSD considers such flexibility to be inherent in the nature of the Working

Capital Fund concept and necessary for the effective operation of the IF.

2. Relationship Between Equipment Obligation Authority, Depreciation, and Outlays

An illustration of the relationship between IF equipment OA, depreciation and outlays follows:

The previous table, developed by the Investigative Staff based upon data provided by OSD, shows the IF equipment outlays reaching the FY 1983 OA level of $706 million in FY 1985. It also indicates that capitalizing and depreciating the IF equipment stock at its estimated net book value of $1.9 billion at the end of FY 1982 would represent a $241 million depreciation charge to the customer which will be collected over a 3-year period. The 3-year collection period results from OSD's stabilized rate policy whereby customer rates are not changed once established for work inducted that fiscal year and the fact that work inducted in one year, generally takes two or more fiscal years to complete. For example, in FY 1983, an activity will be completing work inducted in FY 1982 which will be paid for at FY 1982 rates (excluding depreciation). Similarly, work inducted in FY 1983 will be completed in FY 1984 and FY 1985, however, the IF will receive payment at FY 1983 rates (including the FY 1983 depreciation). Accordingly, since the FY 1982 work does not include depreciation and the depreciation for FY 1983 work will be collected over a 3-year period, only an estimated (OSD's) $195 million of the $241 million in depreciation revenues would be available in FY 1983. However, this would be more than needed to cover the expected equipment outlays of $141 million. As the table indicates, a similar pattern occurs in collection of depreciation revenues in subsequent years. Depreciation revenues would fall short of outlays by about $285 million in FY 1984 and $417 million in FY 1985. For the first 3 years, therefore, the customer accounts/appropriations would be required to pay a cost of about $648 million more than the depreciation charges for the equipment. If this does not occur, these funds would have to be provided from other sources. While admittedly these figures are not precise, they are considered to be illustrative of the OA/outlay relationship during these years.

Under the obligation authority assumptions made by OSD, beyond FY 1985, the customer, in all likelihood, would also pay for the expected equipment outlays at the $706 million level. These costs, however, could be reduced to the extent that any savings realized because of increased productivity of the new equipment are "plowed back" into equipment purchase as OSD has indicated it would do. Based upon the Investigative Staff's review of these data, as mentioned earlier in the report, it is expected that the in-place equipment depreciation charges will not match or exceed required cash outlays for equipment each year until approximately FY 1989 rather than by FY 1987 as envisioned by OSD. Over the longer term, since depreciation charges will never equal replacement cost, the costs over and above depreciation which the customer will have to pay to keep the equipment modernized will depend to a great extent on the savings to be realized from increased equipment productivity. According to DOD officials, over the long-term, increased productivity due to modernized equipment should result in significantly lower overall cost to the customer. This, of course, implies that productivity as it relates to new PE can be measured in terms of the total cost of a given product or service. This may be debatable as there could be a number of offsetting factors, e.g., the learning curve associated with a new type of workload.

3. Financing Industrial Fund Equipment Purchases

As discussed earlier, the OA established by OSD for IF equipment in FY 1983 allows DOD IF activities to order up to $706 million of PE. Payment for the equipment upon delivery, however, is another matter.

The basic financial instrument used in the IF is the project order or customer order. These orders are similar to sales orders in the private sector. Funded project (customer) orders to the IF for work to be accomplished create obligations on the authorizing appropriations side of the ledger and provide obligation authority on the IF side of the ledger, which, in turn, may be used to order supplies, materials, etc. Funded customer orders do not provide cash to the IF, i.e., the authority to write checks on the Treasury. Rather, cash to meet outlay requirements, e.g., payment of employee wages, for materials, equipment, etc., results from progress payments received from customers for completed work and is available for other uses only to the extent that revenues exceed costs. Cash for the IF can be increased by deliberately generating revenues in excess of costs, i.e., a profit, to establish reserves for anticipated equipment outlays, facilities maintenance costs, etc. While the IF is not in business to make a profit, it is not unusual for a profit to be generated; e.g., in FY 1981, the IF made $154.5 million over and above costs. However, losses can also be incurred.

Prior to the Asset Capitalization Program, any profit generated at the end of a fiscal year would be returned to the customers by "budgeting-to-zero" the costs for the following year. However, starting in FY 1983, the IF's will, in all likelihood, be generating profits to keep in reserve for equipment outlays and to increase their cash positions to 30-days' availability, and for certain other purposes. However, this is not the only alternative for increasing cash to meet these types of requirements. Other alternatives are discussed below.

It will be noted from the example in the previous table that in FY 1984, depreciation collections (for FY 1984 and the carry-over from FY 1983) would fall short of estimated equipment outlays by about $285 million. As discussed earlier, this can also be expected for a number of years thereafter. How to close this gap is the critical question! OSD did not commit itself as to how they would provide the additional resources to finance the difference between depreciation revenues and expected equipment outlays in FY 1984 and beyond, stating that they wanted to keep their options open. They indicated that a number of options exist and the alternative to be selected will depend to some

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extent on the eventual magnitude of the Asset Capitalization Program. OSD considers the following alternatives to be viable:

Those with no significant impact on customer appropriations:

- -- Use of Industrial Fund corpus.
- -- Direct appropriation by Congress.

Those with significant impact on customer appropriations:

- -- Incorporation of a temporary equipment surcharge into customer rates.
- -- Temporary curtailment of equipment purchases (this might allow for improvement over the FY 1982 and prior years level of expenditures, but to a lesser extent than might otherwise be desired).
- -- Use of an accelerated versus straight-line method of depreciation.
- -- In some instances, requiring advance deposits (down payments of a certain percent) from customers rather than payment after completion of work.
- -- Temporary or permanent retention of all or a portion of profits. For example, profits realized as a result of productivity improvements from new equipment might be retained for future investment.
- -- Transfer of other DOD resources to the IF.

OSD points out that some of the above alternatives involve the retention of profits in the near-term while adhering to the goal of a break-even IF operation in the long term. However, there was no question in the minds of some of the departmental level and IF activity group personnel as to what they intended to do. For example, Navy personnel stated that they would increase future customer rates to cover the expected equipment outlays. They would then capitalize the profits and place these funds in a reserve for equipment purchases as OSD has authorized them to do. Despite OSD's noncommital position on this issue, it is believed likely that one way or another, "the customer will pay," as one OSD official put it, for the entire cost of the equipment modernization program. However, as another OSD official put it, "* * *without the new program, the customer would also pay--in higher costs due to the current inefficient equipment."

4. Projected FY 1983 Industrial Fund Net Operating Results

Because OSD would not commit itself as to how they expect to finance the shortfalls between equipment depreciation revenues

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and planned equipment outlays beyond FY 1983, the Investigative Staff reviewed the IF financial statements OSD provided to the Congress in February 1982 for possible clues. This review, which was then discussed in detail with representatives of OSD, revealed that while in FY 1981 and FY 1982 DOD IF had a profit of about $154.5 million and a loss of $144.4 million, respectively, in FY 1983 the profits are expected to be $490.6 million. This large increase is primarily because of projected profits in the Air Force IF ($236.0 million), but the Navy would also contribute about $167.2 million and the Army about $85.4 million. This might lead one to question whether there is a distinct plan to build-up the IF profits to finance the equipment modernization program. However, OSD denied that the planned increase in profit is related to the Asset Capitalization Program and explained that it was necessary for a number of reasons. With regard to the Air Force increase, it is intended to be used to offset a significant decrease in cash anticipated as a result of removing contract depot maintenance from the Air Force IF in FY 1983. OSD's explanation follows.

Normal billing policies of the IF provide for the collection of funds from customers after costs have actually been incurred. The billing policies of the Air Force relative to contract depot maintenance usually result in the collection of funds from Air Force customers for reimbursement of depot maintenance contractors prior to costs actually being incurred. These collections in advance of billings result in a temporary cash level in excess of what might otherwise exist. This temporary cash excess above otherwise expected levels is estimated to be approximately $200 million. With the removal of contract depot maintenance from the Air Force IF in FY 1983 (this is provided for in the FY 1983 President's budget, according to OSD) this temporary cash excess would cease. OSD estimated this would result in a cash balance of only some $90 million in the Air Force IF in FY 1983 (equal to less than 2 percent of estimated costs). This level was considered to be insufficient and a dangerously low level of working capital.

Two means of providing for a more acceptable level of cash in the Air Force IF, as explained by OSD, were to request a direct appropriation of cash from the Congress or to generate additional cash through IF rates. Both approaches had the same impact on total DOD Total Obligation Authority (TOA). Due to a series of projected cost decreases in FY 1983 relative to ASIF, it was estimated that this activity group would realize significant profits if increased rates were approved by OSD, as requested by the Air Force. Further, OSD review revealed that even without an increase in rates, but by simply maintaining the FY 1983 rates for ASIF at the FY 1982 level, significant revenue ($232 million) in excess of costs would be generated.

A decision was reached by OSD to provide for the necessary cash through ASIF rather than through an appropriation request for a direct cash infusion. This decision recognized

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that: Treasury cash balances are at the service IF level (rather than the activity group or activity level); customer appropriated fund requests already contained sufficient amounts to pay these rates; total DOD TOA would not be affected; and this approach would avoid wider fluctuations in the ASIF's rates which would otherwise be required between FY 1982 and FY 1983 and possibly between FY 1983 and FY 1984.

OSD explained further that the bulk of the remaining profit ($184 million) is intented to enhance the cash position of IF activities because inflation had eroded it since they were established. OSD pointed out, as an example, that a daily cash flow requirement of $15 million in 1955 would be equal to an $82 million cash flow requirement in 1983. The remaining, smaller amount of profit ($72 million) would be used to recoup accumulated (retained earnings) losses projected at the end of FY 1982.

G. What Are the FY 1983 Budgetary Impacts?

Data provided earlier in the report showed the previous levels of funding for the Fast Payback Program and IF PE included in the Procurement Appropriations. These levels were about $334 million in FY 1981 and $372 million in FY 1982. For FY 1983, OSD officials originally advised that no accurate figure for IF equipment was available. This was because the Navy developed its budget based on the new policy (having risked that it would be approved). Therefore, originally, OSD was able to provide only the proposed FY 1983 Procurement Appropriations equipment funding levels for the Army and Air Force. However, because the Investigative Staff emphasized the need for this data, OSD was eventually able to provide the needed budgetary information as well as certain other information on the new policy which had not previously been available. Part of this data indicates that during formulation of the FY 1983 President's budget, the services had included in the Procurement Appropriations the following amounts for IF equipment purchases:

	(Dollars in Millions)
Army	$ 70.2
Navy	103.0
Air Force	28.8
Total	$202.0

The above amounts do not include funds for the acquisition of equipment under the Fast Payback Program, which the Investigative Staff estimates would have been around $50 million based upon previous years' expenditures. OSD states that it deleted the above Army and Air Force amounts from the services' budget estimates because of the approval of the Asset Capitalization Policy. However, the above information is not considered an accurate

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reflection of the amounts which would have been included in the final version of the President's FY 1983 budget. Several points support this view: (1) the budget process was not completed because of the change in policy; therefore, it was not possible to determine what the final IF equipment amounts would have been under the Procurement Appropriations; (2) the FY 1981 and FY 1982 equipment acquisition levels were significantly greater than the $202 million; (3) because of the acknowledged antiquated IF PE coupled with the overall larger FY 1983 Defense budget, the equipment acquisition levels would probably have been increased over the FY 1982 levels had the budget process been completed; and (4) the Army and Air Force probably short-changed the IF equipment levels on the basis that the new policy would be approved. For these reasons, the Investigative Staff believes that it is more valid to use the $372 million figure provided by OSD for the FY 1982 equipment acquisition level ($346 in the Procurement Accounts and $26 million in the customer appropriations for the Fast Payback Program) as a comparator for evaluating the budgetary impact of the new program.

In FY 1983, according to OSD, approximately $66 million in Procurement Appropriations will still be needed for equipment acquisition for IF activities excluded from the new policy, e.g., ASIF, and for IF equipment not otherwise covered, e.g., equipment which provides increased capability. Accordingly, in FY 1983, based upon the above conclusion, a minimum of an additional $280 million in obligation authority ($346 minus the $66 million) has been made available to Defense managers in the Procurement Appropriation for other acquisitions, e.g., additional weapons, as a result of the shift in the method of financing IF equipment. In order not to have the new policy impact adversely on the customer appropriations, OSD said it added the estimated FY 1983 equipment depreciation costs of $241 million to these appropriations (primarily OM). As a result of the new policy, on an overall Defense budget basis (FY 1983) OSD has in effect, deleted a net of $280 million from the Procurement Appropriations and added $241 to the customer appropriations for a net reduction of $39 million in obligation authority over the previous year. However, as discussed previously, OSD considers this analysis to be irrelevant because their primary funding control is on total DOD outlays. At the same time, as also mentioned earlier, Defense will have a OA of about $465 million for IF equipment greater than the Congress will have approved because of the unique way the IF operates. This results from the $706 million OA for equipment, which is not included in the Defense TOA budget request, minus the $241 million which was added to the customer appropriations and which, therefore, is included in the Defense TOA budget request. Consequently, an additional net authority to obligate funds in the amount of $465 million is available to DOD.

In the out-years of the FY 1983 FYDP (FY 1984 to FY 1987), OSD has indicated that a total of approximately $960 million from the services' Procurement Appropriations has been shifted to the IF customer appropriations because of the change in financing for IF equipment.

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H. What Benefits Are Anticipated?

In response to the question, OSD could only cite generalities such as increased productivity leading to lower unit costs to customers. The issue of measurement of equipment productivity was discussed extensively during the review with the concensus being that equipment productivity in the aggregate cannot be measured in any meaningful manner. It can be measured on an individual item basis; however, because cost changes due to an increase or decrease in productivity are not measured on a machine-by-machine basis and are, in fact, due to a number of factors, it is practically impossible to tie increased productivity directly to improvements in plant equipment.

Productivity which, for all practical purposes, is synonymous with labor productivity is measured on an aggregated basis. It includes equipment productivity as an element, but is composed of many other elements, e.g., improvements due to new production processes, innovative new approaches, results of employee motivation programs, etc. Normally, in the Air Force, labor productivity is compared each year against an established base year with the incremental changes each year signifying the increases, decreases, and/or trends in productivity. Other organizations such as the Navy, compare the changes only on a year by year basis with no trend being established. On the whole, OSD describes DOD's ability to measure productivity as "admittedly crude." Accordingly, no annual increased productivity targets have been established by OSD to reflect the benefits expected from the planned expenditures for IF replacement equipment. Therefore, it is not possible to establish the tangible savings or other benefits to result from the Asset Capitalization Program.

DOD officials have stated that it is normal for IF managers to project their labor productivity changes as part of the annual budget process based upon all the pertinent factors involved. This productivity projection is reviewed and subject to change, at each echelon up to the OSD level. For example, if OSD based upon their review of the factors involved, was not satisfied with one of the services' projections of productivity, it would direct a change through the budget process. More times than not, OSD changes will tend to direct greater productivity by requiring a reduction in employees to do the same workload. In fact, one DOD official frankly stated that he had no doubt that OSD would achieve savings resulting from increased productivity in association with the Asset Capitalization Program. This would be done by including a stipulated productivity increase in the budget each year (i.e., reducing the number of employees for the same workload), so that the savings due to productivity increases would, in fact, be realized. It was stated that DOD should attain savings as a result of increased productivity at the end of the period of investment, in excess of the funds spent for the replacement equipment (i.e., in excess of the $3.5 billion expected to be expended) otherwise, why spend the money? However, documenting that savings will in fact result would require that

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the DOD establish a firm equipment modernization program based upon an identifiable base line; be able to measure its progress in terms of investment and benefits each year; and be able to identify and justify any necessary adjustments due to other than equipment improvements, e.g., increased or decreased workload, etc. Without such a program, talk of increased productivity resulting from modernization of equipment will be without substance.

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VII. EQUIPMENT

A. What Equipment Will Be Purchased?

Under the Asset Capitalization Policy, all capital equipment required by IF activities will be acquired with Industrial Fund resources rather than appropriated funds except:

-- Equipment for the Airlift Service Industrial Fund operated by Military Airlift Command (MAC).

-- Ships for the Military Sealift Command.

-- Equipment which is normally procured and installed using Military Construction Appropriations.

-- Equipment needed primarily to meet mobilization requirements when no or only limited peacetime application exists.

-- Equipment initially procured and furnished as part of a weapons system or support system when funded by the weapons system manager.

-- Equipment normally provided as Government Furnished Equipment.

-- Aircraft and ships.

-- Major Range and Test Facilities Base Equipment.

-- Equipment for tenant activities, military support functions, etc., even though such activities/functions utilize Industrial Fund financial systems.

-- Such other exclusions as may be approved by the Assistant Secretary of Defense (Comptroller).

As discussed earlier, IF equipment is categorized as PE, which consists of two subcategories, IPE and OPE. Examples of IPE are machine tools such as lathes, milling machines, shapers, drill presses, grinders, numerically controlled equipment, etc. Examples of OPE are bridge and portal cranes, conveyor systems and other material handling equipment, and facilities and equipment for heat treatment, cleaning and blasting, etc. OPE also includes vehicles such as wheel mounted cranes, pick-up trucks, cargo trucks, fire and rescue vehicles, etc.

B. Profile of DOD Industrial Plant Equipment

As indicated in Section VI, the Investigative Staff was not able to obtain data on the status of DOD's equipment from the senior management levels of DOD (i.e., OSD and service department levels) even though important segments of the necessary data were

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readily available from DIPEC. As also mentioned previously, the use of "average age" is considered to be essentially meaningless as a "status" or relative condition indicator. While the type of equipment profile presented in this section is available and considered to be an improvement over the single average age indicator, it has not been used by DOD for this purpose. It is believed that some logical and meaningful method of quantifying DOD PE is necessary and should be implemented in order that equipment status can be determined and a base line established against which to measure the progress of the modernization program.

During the course of this review, several possible different approaches were mentioned--approaches based upon extensive studies done by outside contractors and others. In addition, various activities such as the Norfolk Naval Shipyard, NAVSEA, DESCOM, and AFLC use their own systems. One, the AFLC system is discussed in the following section. With some minor modifications, the AFLC system is a logical approach to determining certain important aspects of equipment profile. However, any logical and meaningful system which is applied uniformly throughout DOD would go a long way toward accomplishing the necessary objective--something which has not been done to date.

The basic data (e.g., year of manufacture, useful life, etc.) needed for an equipment profile system was contained in all the equipment records reviewed. However, it is believed that any system should be based upon the existing Federal Supply Classification System. In other words, it should be based upon or similar to the system for IPE as implemented by DIPEC. This system categorizes IPE into groupings such as "Metalworking--Cutting" and "Metalworking--Forming." Within these groupings, the equipment is identified by its Federal Supply Class (FSC). The existing system should also be expanded to include the essential elements of OPE. If necessary, additional data could be added to the system. An example of the data already available which could serve as a basis for an equipment profile system follows:

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RELATIONSHIP BETWEEN EQUIPMENT OBLIGATION AUTHORITY (OA) DEPRECIATION AND OUTLAYS

		FY 1983			FY 1984			FY 1985		
		Outlays	Depreciation	Difference	Outlays	Depreciation	Difference	Outlays	Depreciation	Difference
		(Dollars in Millions)								
FY 1983 [1]										
Total OA	-$706	-141			-389			-176		
Total Depreciation	+$241		+195			+40			+6	
Difference	-$465	-141	+195	+54	-389	+40	-349	-176	+6	-170
FY 1984										
Total OA	-$706				-141			-389		
Total Depreciation	+$253					+205			+42	
Difference	-$453				-141	+205	+64	-389	+42	-347
FY 1985										
Total OA	-$706							-141		
Total Depreciation	+$297								+241	
Difference	-$409							-141	+241	+100
Total		-141	+195	+54	-530	+245	-285	-706	+289	-417

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[1] Provided by OSD.

Assumptions:

$706 million OA level funding throughout period, continuing beyond FY 1985 to at least FY 1987.

$241 million depreciation each year for equipment stock existing at end of FY 1982.

New equipment deliveries (FY 1983 and future) are depreciated in an average of 12 years in year following delivery.

Equipment orders are delivered and paid for at about 20 percent in year of obligation, 55 percent the next year, and 25 percent the third year based upon data provided by OSD for FY 1983.

Depreciation revenue is collected 81.1 percent the first year, 16.6 percent the next year, and 2.4 percent the third year, based upon data provided by OSD for FY 1983.

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PRO[illegible] OF [illegible]Y'S [illegible]-US[illegible] [illegible]E

FSC Number	Item Identification	Inventory: Number of Items	Inventory: Acquisition Cost ($ in Millions)	Inventory: Average Age	Inventory: Service Life	Items Exceeding Service Life: Number of Items	Items Exceeding Service Life: Acquisition Cost ($ in Millions)	Items Exceeding Service Life: Percent
Category:	**Metalworking Cutting**							
3405	Saws and Filing Machines	1,126	4.7	25.4	21	743	2.2	65.9
3408	Machining Centers and Way Type Machines	83	13.9	16.0	15	36	4.1	43.3
3410	Electrical and Ultrasonic Erosion Machines	86	1.4	16.2	12	55	.9	63.9
3411	Boring Machines	527	28.4	27.9	19	415	15.4	78.7
3412	Broaching Machines	36	.9	31.6	17	34	.9	94.4
3413	Drilling and Tapping Machines	961	7.9	27.6	19	750	5.2	78.1
3414	Gear Cutting and Finishing Machines	88	1.5	31.9	19	76	.9	86.4
3415	Grinding Machines	1,351	22.7	25.7	19	1,006	11.8	74.5
3416	Lathes	2,683	48.8	26.4	20	1,877	20.1	69.9
3417	Milling Machines	2,004	36.0	27.2	20	1,466	19.3	73.2
3418	Planers and Shapers	296	3.7	31.5	25	254	2.9	85.8
3419	Miscellaneous Machine Tools	517	6.7	22.6	19	305	3.2	59.0
	Total/Average	9,758	176.6	26.4	19.89	7,017	86.9	71.9
Category:	**Metalworking Forming**							
0000	Type of Machine	000	0.0	00.0	00	000	0.0	00.0
0000	Type of Machine	000	0.0	00.0	00	000	0.0	00.0
0000	Type of Machine	000	0.0	00.0	00	000	0.0	00.0
	Total/Average	000	0.0	00.0	00	000	0.0	00.0
Category:	**Other Metalworking**							
0000	Type of Machine	000	0.0	00.0	00	000	0.0	00.0
0000	Type of Machine	000	0.0	00.0	00	000	0.0	00.0
0000	Type of Machine	000	0.0	00.0	00	000	0.0	00.0
	Total/Average	000	0.0	00.0	00	000	0.0	00.0
	GRAND TOTAL/AVERAGE-ARMY IPE	000	0.0	00.0	00	000	0.0	00.0

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The following information provides some appreciation of the inventory and cost of DOD's industrial plant equipment:

	Acquisition Cost ($ in Billions)	Number of Items	Replacement Cost ($ in Billions)
Army (DARCOM) [1] ——	$1.6	105,590	$2.9 [2]
Navy (IF only) ——	0.8	100,680	n/a
Air Force (AFLC) ——	0.9	55,962	2.1

[1] Includes all IPE, i.e., in-use, in reserve, in contractor plants, etc.
[2] Cost to replace 80 percent of over age equipment with new, while remanufacturing the remaining 20 percent.

Data on OPE is difficult to obtain because it is not accounted for in the same manner as IPE (by DIPEC). However, the Navy was able to provide data on IF OPE which can be considered as being representative of that type of equipment stock. For Navy, the roughly equivalent OPE data is 128,695 items with an acquisition cost of $1.3 billion. It is also interesting to note that the Department of Commerce's Bureau of Economic Analysis publishes information on DOD's IPE. This information contained in their March 1980 publication, Survey of Current Business, indicates that the average age of DOD's equipment in 1979 was 9.3 years. The Investigative Staff requested the office responsible for this data to provide the average age of DOD's equipment, excluding that in contractor plants, for 1980. The data indicates DOD's in-house IPE is 8 years old. Considering the information acquired from other sources, the Department of Commerce figures appear to be somewhat out of line; however, if so, this is another indication that the U.S. Government is not really certain of the status of its industrial plant equipment.

The IPE data obtained from DIPEC for Army, Navy, and DLA was made available by FSC. However, it is presented below only in summary form by major category, e.g., Metalworking--Cutting, etc. For the Air Force, only AFLC data was available based upon the aforementioned one-time random sample because Air Force does not provide IPE data to DIPEC as do the other services. Based upon a review by the Investigative Staff, it would appear that the required data could be made available to DIPEC from the AFLC data bank. If this were done, DIPEC's data bank would contain the entire DOD IPE inventory. This has certain obvious advantages including the ability to get a composite picture of the entire DOD IPE inventory by FSC. This would go a long way toward having available a dynamic information base on the status/profile of all DOD in-house IPE--something which, to date, no one has apparently deemed necessary. It should also again be pointed out that the DIPEC provided equipment data is not limited to the IF but includes all in-house IPE. The vast majority of this equipment, however, is used by IF activities.

The following table represents the in-use IPE information available from DIPEC and AFLC which the Investigative Staff specifically requested.

On the basis of the above data, it can be seen that the average age of DOD's in-use IPE varies from a low of 9.5 years with an average service life of 19 years (AFLC) to a high of 19.1 years with an average service life of 17.3 years (DLA). For the combined Army, Navy, and DLA IPE equipment, the results are an average age of 15 years against an average service life of 14.7 years. In addition, 46 percent of this equipment exceeds its service life. Clearly, information does exist and is readily available on DOD IPE--the most important segment of the IF equipment. This information represents a base line. If it can now be determined where DOD should be in terms of its IPE, i.e., the goals of a modernization program, then it will be possible to measure progress toward these goals. This is a most critical aspect of the OSD program and one that seems to have eluded all concerned.

C. Repair Versus Replacement of Equipment

As indicated previously, the Investigative Staff found quite conclusively that the organizations and people which had the best "handle" on equipment problems and needs were those at the activity (depot) level. Many of the civilians had been employed by their respective organizations for a number of years and were intimately familiar with the depot's workload and the equipment needs of the various shops. It is notable that each of the depot activities had some form of program for evaluating PE. The end result of each program is essentially the same although the programs vary in complexity and sophistication. It is believed that activity level people are knowledgeable of their industrial plant facilities and, regardless of the complexity of the process, probably selecting the proper equipment for replacement or remanufacture. In addition, it is not likely that the situation would change appreciably irrespective of the manner of funding PE. One change under the Asset Capitalization Program, however, is that new equipment will be funded from the same source as the refurbishment of old equipment. Previously, equipment which was remanufactured was "financed" with IF revenues with the cost of refurbishment ultimately paid by the customer. Aside from the economic benefits of the lesser cost of remanufacture (in most cases) as compared to procurement of new, replacement equipment, the previous method gave each depot more control over its own destiny as it did not have to compete for the limited available procurement funds.

Conversely, a disadvantage is that because funding for PE was not readily available at the depot level, remanufacturing could be done to maintain the required capability in certain instances where procurement of new equipment may have been the more practical and cost/effective solution in the longer term had funds been available. A somewhat "perverted" example of this situation was noted at the Norfolk Naval Shipyard where four portal cranes were being overhauled at a cost of $20 million when new cranes could have been procured for $3.0 million each (versus approximately $5 million). This is not a totally clear-cut case, but it does illustrate what can be done to get around

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purchasing new equipment when purchase might be the more cost-effective solution to a problem if the funds are available.

Of the methods employed by the various services for determining their equipment needs, the Air Force has the most comprehensive and sophisticated system--a system which combines human judgment with automation. At the Oklahoma City ALC, it was observed that AFLC had developed what appears to be an effective, practical system for analyzing and determining equipment needs. Part of the analysis includes an evaluation which helps to establish which items should be replaced and which might be remanufactured.

The evaluation process may be initiated at least one of two ways: recognition by shop management that a machine is not performing up to specification; or, the process may be triggered through an automated system. The automated system evaluates a number of parameters and produces what is referred to as the retention value (RV) factor.

In instances where an evaluation was initiated from information in the automated system, the RV factor is the triggering indicator. In the computer, a number of "evaluation factors" are analyzed, the result being expressed in the RV factor, a number between 1 and 150. If the analysis results in a number of 100 or more, the equipment is further evaluated for replacement or remanufacture. The factors involved in the analysis are usage rate, age of the equipment, its capability, the condition and criticality to the functions performed by the facility, the number of extra shifts required for substitute equipment to do the job, etc. In essence, the RV factor provides a relative indication of equipment condition and whether it merits further analysis.

Once it has been determined that a machine is a candidate for replacement or remanufacture by virtue of its RV level, a team is established to determine the most feasible course of action, i.e., replacement or remanufacture, so that machine capability can be maintained within the division. The team is composed of those most familiar with the equipment as well as those versed in economic analysis. A typical team would include members from functions such as engineering, production, quality control, preventative maintenance, etc. The following are some of the criteria the team would consider in their replacement/remanufacture deliberations:

-- Air Force and OSHA standards, e.g., noise standards.

-- Availability of replacement parts. If parts availability is restricted, this would mitigate against remanufacture.

-- Whether the state-of-the-art has advanced to the point where replacement would be the more beneficial alternative.

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-- An evaluation of new processes for doing a given task, e.g., electro-chemical grinding versus conventional grinding.

-- Lead time to return machine to production status. General guideline is that remanufacture turn-around-time is 7 months versus 24 for replacement.

-- Condition of basic machine, i.e., ability to hold tolerances, etc.

-- Condition of existing foundations and the cost of installation if a new (replacement) item is procured.

-- Cost of replacement versus remanufacture (remanufacture limited to 75 percent of replacement cost).

The essence of the issue of replacement versus remanufacture are the matters of cost and whether a logical process exists which leads to the best decisions. In general, an economic analysis is required to be performed for all capital equipment investment. Most analyses are rather extensive and appear to be sufficient in detail to indicate the cost/benefits of whichever course of action is recommended. In addition, considering existing constraints, principally funding, the mechanisms do exist for determining PE needs and whether worn out equipment should be replaced or remanufactured. While the Air Force system may be more automated and formalized than the other services, in all services, the people most knowledgeable of the equipment problems appear to be evaluating them and making the system work. In addition, some sort of overall "triggering" system was also used. Like the Air Force, NAVSEA, has a formal, sophisticated Industrial Planning System for naval shipyards and its other plants, the purpose of which the manual states, is to:

a. Determine requirements for industrial plant equipment.

b. Determine requirements for production shop space.

c. Assist in justification of projects for Military Construction and for industrial plant equipment acquisition.

In addition, all services also have technical agencies or offices responsible for reviewing IPE replacement/repair programs. However, the Investigative Staff is not at all certain that such procedures and controls apply equally to equipment other than IPE such as MHE, vehicles, etc.

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D. Some Problems With Equipment Depreciation

DOD regulations require IF activities to maintain depreciation records on their equipment for both billing purposes (to non-DOD customers) and for statistical purposes. For this reason, the concept of depreciation and the maintenance of such records are not new to the IF. DOD depreciation policy is based on the "straight-line" method where the original cost of the item equipment minus its salvage value is depreciated in equal increments over its "useful life."

However, during the course of the study, the Investigative Staff found that equipment depreciation records were not being maintained by some of the IF activities in a manner which would make them reliable sources for charges to customers. At one Navy activity, an official advised, " * * * we haven't developed depreciation charges for our equipment yet; we only started looking at it 3 days ago." Moreover, at this activity many of the almost 8,000 items of equipment had long since been depreciated. Since under the new policy, equipment cannot be fully depreciated while still in use, the activity is faced with a massive task of reviewing these items in order to establish the required nominal or fair market values and the revised useful life periods. This action is required so that the appropriate depreciation charges can be applied starting in FY 1983.

Navy Material Command representatives stated that equipment depreciation charges had not been determined for FY 1983. They said that the figure of $110 million received by the Investigative Staff from OSD for Navy equipment depreciation actually represented their original procurement request for equipment in FY 1983, before the new program was approved.

Marine Corps representatives also indicated that the funds transferred to their customer accounts to pay for increased rates due to equipment depreciation charges also represented their original procurement request for equipment in FY 1983, and were not for depreciation. In fact, they stated that the rates to be charged customers in FY 1983 do not include depreciation charges.

The above situations were contrary to what the Investigative Staff had been lead to believe regarding FY 1983 equipment depreciation charges, and is the source of some concern since these charges are a key element of the new DOD program. What had been considered to be fairly accurate estimates for the value of depreciation for FY 1983 ($241 million) had been provided by OSD representatives and accepted by the Investigative Staff since depreciation records are required to be kept by IF activities. This same figure had also been identified by OSD as having been added to the customer accounts during the FY 1983 budget development process in order for the customer to be able to pay the increased rates due to depreciation. Without these

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additional funds being added to the customer accounts, insufficient resources would be available to accomplish the programmed workload. Consequently, the unfunded backlog of work would increase as a direct result of the new policy.

These situations point up the fact that a great deal of work still must be done by DOD to identify the actual depreciation status of IF equipment in order to establish proper customer charges. It is not believed that any customer will be significantly affected during FY 1983, because under the OSD Stabilized Rate Policy, the rates to be charged for FY 1983 have been approved by that office and cannot be changed without its approval. However, by FY 1984 or 1985, after completion of the review to insure accurate depreciation records, if it develops that substantially larger depreciation charges for existing equipment are warranted, then without an increase in funding for the customer accounts, an unfunded backlog of work could be generated.

It should also be pointed out that in view of the more limited resources available to DOD prior to FY 1981, it should not have been surprising that equipment depreciation records, used basically for statistical purposes (if at all) were not as accurately maintained as required. However, all IF activity representatives with which this matter was discussed agreed that accurate equipment records, including depreciation, must now be kept.

The Investigative Staff also found what is considered to be a high degree of inconsistency with regard to depreciation of equipment as it relates to its "useful life" or "service life." When asked who determines the "useful life" of equipment, OSD representatives advised that the services do. In reviewing this area with the service staffs and IF activities, it was learned that a number of different "useful life" periods are in use.

DOD's manual on Management of Defense-Owned Industrial Plant Equipment (IPE) (a tri-service-DLA manual) provides the useful life of all items of equipment for replacement purposes. Another source of the useful life of equipment are the Internal Revenue Service (IRS) tables. An Air Force activity advised that in developing an economic analysis for repair/replacement decisions, they had to use a 10-year useful life in determining the economic benefits of a particular case. Useful life is only one of many terms used to determine how long equipment will last. Other terms used are service life, economic life, technological life, tax life, production life, etc.

In the Air Force, IF financial accounting requires the use of the IRS useful life tables for depreciation. Air Force IF equipment managers use the useful life tables from the DOD manual for identifying equipment which should be reviewed for repair/replacement. An Army IF activity uses Technical Bulletins, Technical Manuals and Manufacturer's data to determine useful life for replacement decisions and depreciation. As an illustration, the case of a lathe points up the impact of this inconsistency.

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The Army depreciates the cost of the lathe over 20 years, the Navy over 25 years, and the Air Force over 12 years. Using a cost figure of $100,000 for a lathe results in an annual straight-line depreciation charge to the customer varying from a low of $4,000 for the Navy to high of $8,333 for the Air Force--the latter being over double the Navy's charge. Similar inconsistencies were noted in the useful life for equipment replacement evaluations.

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VIII. AREAS OF SPECIAL INTEREST

A. Financing Military Construction With Industrial Fund Revenues

The Investigative Staff explored the issue of financing military construction with IF revenues in some depth. Many DOD officals were flatly opposed to this proposal on the basis that it would "bankrupt" their customers because of the high cost involved in plant modernization. Others had more mixed reactions. They considered it desirable, but unachievable in view of the four Military Construction Subcommittees of Congress involved.

OSD officals state that at this time, they have no intention of including military construction above the level authorized for OM Appropriations ($100,000) in the Asset Capitalization Program.

Historically, the view of the Congress has been that the costs of military construction projects are to be specifically authorized and that full funding is to be available in the year in which construction efforts are initiated. This is to assure that complete and usable facilities can be obtained once the process has been initiated and to avoid the "hedges" which contractors would have to include in bids to cover the eventuality of termination.

While the availability of funds for equipment purchases is a recognized need, construction projects, on balance, can be anticipated to be significantly more expensive than individual items of equipment. Construction projects also have a significantly longer expected useful life than equipment, and therefore, a longer period over which costs could be recovered through depreciation--perhaps up to 40 years in some instances. The requirement for large sums of "up front" money could result in a significant, perhaps intolerable, drain on IF cash in the near term--possibly up to one billion dollars within a few years depending on the construction projects undertaken. Additionally, equipment purchase can be discontinued at various stages if sufficient funds are not available; however, financial arrangements cannot be condoned which could allow commencement of a construction project without assuring that adequate financing is available to complete the project.

Nevertheless, even though OSD officials state they are not contemplating implementing a policy of financing all construction projects with Industrial Fund resources, they believe that some changes may be desirable. They feel financing specific minor construction projects, associated with the installation of essential equipment, with Industrial Funds instead of military construction appropriated funds may be advantageous. Such efforts might be accomplished utilizing IF resources in conjunction with an approval process similar to that in effect for minor construction projects currently financed from the services' military construction

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appropriations, i.e., informing the appropriate Congressional Subcommittees of the proposed project and waiting a certain period before initiating procurement action to ensure there are no objections.

B. Vehicles

The Asset Capitalization Program includes the purchase of vehicles (e.g., fork lift trucks, pick-up trucks, cargo trucks, shop vehicles, wheel mounted cranes, fire and rescue vehicles, etc.) with IF resources. OSD states that the same advantages are to be realized from allowing the purchase of this type equipment with IF resources, i.e., providing IF managers with greater flexibility and control over another area which affects the efficiency of the operation. There would be no change in DOD procurement practices involved. Centrally procured and managed standard items of vehicles would continue to be centrally procured in order to achieve economies of scale. Under the new policy, acquisition of vehicles needed for IF operations could be better planned and some economies could be realized. For example, the Investigative Staff noted that some IF managers were obtaining needed vehicles by leasing because they were unable to meet their needs through normal channels.

According to OSD officals, the purchase of administrative, i.e., passenger vehicles, would be included under the new policy. They recognize that there is greater potential for abuse with these types of vehicles and that tighter controls would have to be imposed on them than on "operational" type vehicles. In fact, the Air Force does not intend to capitalize passenger vehicles since its IF activities obtain them from the base motor pool which serves all base organizations, IF, and otherwise.

C. Industrial Fund Equipment Procurement Process

In most cases, especially for standardized items of equipment, the IF activity manager must submit his purchase request to a designated procurement office. From that point on, he loses control over the action and must rely on the procurement office. As procurement offices are workload sensitive and with the overall Defense budget increasing, their workload may likewise increase appreciably.

Concern was expressed during one of the visits that the activity expected to have all the documents needed to initiate procurement action on its proposed equipment purchases ready by October 1, 1982, but they did not expect the procurement office to complete all the actions necessary to obligate the funds for the requested equipment before the end of the fiscal year! Since there is already some question as to whether the IF activities can "gear up" to the increased equipment obligation authority under the new policy, if OSD is to initiate a successful first year program, it should communicate its objectives to the procurement side of DOD.

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If not, there is the possibility that the Asset Capitalization Program will not materialize properly due to bureaucratic inertia.

D. Special Exception Recommended By House Armed Services Committee

In its report (97-483) the House Armed Services Committee (HASC) took exception to the Renovation of Armament Manufacturing (REARM) program being included in the Asset Capitalization Program. The REARM program is a long-term project (1978 through 1990) intended to modernize weapons production facilities at Watervliet and Rock Island Arsenals. As a result, because Watervliet and Rock Island are both IF activities, they would normally have come under the new program; however, because the HASC feels that the REARM program is an integral part of the production base support for tracked vehicles, it requested in its report (97-483) that "future Defense budgets reflect funding for the REARM program in the Army Weapons Tracked Combat Vehicle appropriations" (Procurement Apropriations).* Accordingly, the HASC recommended a $41.7 million increase in the above appropriation.

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DOD INDUSTRIAL PLANT EQUIPMENT PROFILE

Item Identification	Inventory: Number of Items	Inventory: Acquisition Cost ($ in Millions)	Inventory: Average Age	Inventory: Service Life	Items Exceeding Service Life: Number of Items	Items Exceeding Service Life: Acquisition Cost ($ in Millions)	Items Exceeding Service Life: Percent
Army (Provided by DIPEC) [1]							
Metalworking—Cutting	9,758	176.6	26.4	19.0	7,017	86.9	71.9
Metalworking—Forming	2,014	26.5	24.0	19.0	1,250	8.9	62.1
Other Metalworking	2,545	11.2	15.6	13.3	1,419	5.4	55.8
Electrical/Electronic	23,401	91.8	11.9	13.0	9,131	33.1	39.0
Other Measuring and Testing	10,829	97.1	13.0	12.9	5,087	48.2	47.0
Other IPE	9,923	87.9	17.7	17.3	4,615	20.0	46.5
Grand Total/Average Army	58,470	491.1	16.1	15.1	28,519	211.3	48.8
Navy (Provided by DIPEC) [1]							
Metalwor'ing—Cutting	18,283	308.3	24.8	19.0	12,051	143.4	65.9
Metalworking—Forming	5,193	57.7	22.5	20.1	2,856	25.3	55.0
Other Metalworking	9,801	41.5	14.1	13.7	5,210	16.2	53.2
Electrical/Electronic	93,923	356.5	11.4	13.0	35,860	104.3	38.2
Other Measuring and Testing	15,882	123.0	14.2	13.2	7,834	56.7	49.3
Other IPE	19,748	209.9	17.9	17.3	9,122	69.7	46.2
Grand Total/Average Navy	162,828	1,096.9	14.5	14.6	72,933	415.6	44.8
Air Force (AFLC) (Based upon a recent one-time random sample by AFLC)							
Grand Total/Average	55,942	879.5	9.5	19.0	n/a	n/a	0.0
DLA (Provided by DIPEC) [1]							
Metalworking—Cutting	493	7.5	27.8	20.0	411	5.9	83.4
Metalworking—Forming	112	0.9	30.1	19.9	92	0.7	82.1
Other Metalworking	97	0.5	17.2	13.2	60	0.3	61.8
Electrical/Electronic	506	1.6	14.4	13.0	285	0.9	56.3
Other Measuring and Testing	326	1.4	19.9	14.1	213	0.8	65.3
Other IPE	914	4.0	16.0	19.5	309	1.1	33.8
Grand Total/Average—DLA	2,448	15.9	19.1	17.3	1,370	9.7	55.9
TOTAL ARMY, NAVY, AND DLA ONLY	223,746	1,603.9	15.0	14.7	102,822	636.6	46.0

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[1] Data is based on DIPEC records and does not necessarily reflect the actual state of equipment since that depends upon many factors such as state of maintenance and repair, utilization, etc.

IX. COMPARISON WITH PRIVATE INDUSTRY

A. Equipment Status

In the past few years there has been a great deal of concern expressed over the reduced productivity of American industry resulting from over age plant and equipment resulting from what are considered insufficient investment levels. A related impact is the loss of American industry's competitiveness with foreign manufacturers. Still another impact of concern is the effect of equipment obsolescence on the capability of American industry to support the National Defense effort. In 1980, the Congress held extensive hearings throughout the country on this issue. Representatives of many American corporations, Defense officials, and others provided testimony on the state of the U.S. industrial plant and equipment. As a result, much data documenting the status of the U.S. industry's plant and equipment is available.

In addition, the publishing firm of McGraw-Hill, Incorporated, conducts a survey of the status of machine tools in U.S. industry at about 5-year intervals. This effort conducted for the American Machinist magazine, resulted in its latest report, the 12th American Machinist Inventory, in December 1978.

The Economics Department of McGraw-Hill also surveys U.S. industry on capital spending and issues periodic reports. The latest, How Modern is American Industry?, December 1980, provides valuable insight into the question. It indicates that during the 1970's, U.S. industry increased its modernization pace, thereby reducing the age and obsolescence of its plants and equipment. It also invested increased amounts in automation. However, in the 2 years between 1978 and 1980, this trend apparently slowed down. This conclusion, with caveats which recognize the small sample size and the bias resulting from the modernization effort of the larger companies responding being different from the smaller companies, is based on the following:

-- Industry reports that 41 percent of its plant and equipment is less than 5 years old--the same percentage reported in 1978. However, the percentage of industry's capital stock more than 10 years old rose from 31 percent as of year-end 1978, to 37 percent by year-end 1980.

-- Industry currently estimates that 11 percent of its plant and equipment is technologically outmoded, up marginally from 10 percent in 1978. But in the manufacturing sector alone--where foreign competition has intensified--15 percent of the capital stock is considered outmoded compared to 11 percent 2 years ago.

-- The cost of replacing outmoded manufacturing facilities with the best new plant and equipment is currently put at $169 billion. That is over $40 billion more than industry

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in 1978 estimated it would have to pay to be fully up-to-date. After adjusting for increased prices of capital goods during the past 2 years, the estimated 1980 cost is still $20 billion more than in 1978.

- In 1979 and 1980, industry allocated about one-fifth of capital spending to automated machinery and equipment; and this share is expected to rise to one-fourth by 1982. However, these shares represent a decline from 2 years ago. In 1977 and 1978, spending for automation already accounted for one-fourth of capital budgets; and the share was projected to rise to nearly 30 percent by 1979.

The report further states that as of year-end 1980, 11 percent of its plant and equipment was considered outmoded by industry versus 10 percent, 11 percent, and 12 percent at the end of 1978, 1976, and 1970, respectively. This would tend to indicate that American industry has not been getting more obsolescent, as is widely believed. By the same token, American industry has not made any great gains in overcoming obsolescence. Data in the report indicates that as of the end of 1980, industry reported that 41 percent of its plant and equipment was less than 5 years old and 64 percent was less than 10 years old. At the end of 1978, the data was almost the same--41 percent was also less than 5 years old and 69 percent was less than 10 years old.

The data in this report also indicates that although the proportion of relatively new capital stock had been trending upward during 1970, this trend has also apparently been halted. Part of this upward trend was attributed to inflation, i.e., more costly new equipment inflating the value of recently acquired capital assets. However, despite the fact that capital goods prices increased by 18 percent from 1978 to 1980, the age of the capital stock did not decline during the period.

A strict comparison of the profile of DOD equipment to that of American industry is not possible because industry data is focused primarily on machine tools. Also, the data available on the private sector's equipment profile, such as the 12th American Machinist Inventory does not contain "service life" information. As indicated above, industry's "best judgment" is used to determine the degree of outmoded or over age equipment.

The following additional information on the status of American industry's plant and equipment was obtained during the course of the study:

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PERCENT OF PLANT AND EQUIPMENT U.S. INDUSTRIES CONSIDER OUTMODED (OVER AGE)[1]

	1980	1979	1976	1970
All Business ------------	11	10	11	12

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[1] McGraw-Hill Publications Company, Economics Department Review, How Modern is American Industry?, December 1980.

The above perceptions are somewhat more useful for comparing American industry's equipment with DOD's. The information shows that in 1980, U.S. industry considered only 11 percent of its plant and equipment to be outmoded while, in 1982, 46 percent of DOD's equipment (only) had already exceeded its useful life. This could be considered a condition far worse than being "outmoded."

The 12th American Machinist Inventory provides perhaps the best available information for a comparison between U.S. industry and DOD equipment. However, it can only be used on a limited basis because of definitional problems. It allows ready comparison to be made only on machine tools and then only in two categories: Metalworking--Cutting and Metalworking--Forming. Further, based on the manner in which the data was collected and is displayed, it can only be viewed as providing an approximate relative comparison of these types of machine tools.

COMPARISON OF APPROXIMATE AGE OF PRIVATE SECTOR AND DOD PRIMARY MACHINE TOOLS

Metalworking--Cutting	Number of Items in Sample	Percent of Equipment Over 20 Years
U.S. Industry [1] ----------------	1,986,500	34.0
Department of Defense:[2]		
Army -------------------------	9,758	71.9
Navy -------------------------	18,283	65.9
DLA --------------------------	493	83.4
Metalworking--Forming		
U.S. Industry [1] -----------------	64,200	35.0
Department of Defense:[2]		
Army -------------------------	2,014	62.1
Navy -------------------------	5,192	55.0
DLA --------------------------	112	82.1

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[1] 12th American Machinist Inventory, December 1978

[2] Provided by DIPEC, 1982, and representing the percentage of tools which exceed their service life--19.8 to 20.1 years.

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The above table shows conclusively--that DOD's primary machine tools are over age compared to U.S. industry's.

B. How Private Sector Requirements Are Determined

In addition to determining the age of industrial plant equipment in the private sector, the Investigative Staff visited Caterpillar Tractor Company in Peoria, Illinois, to discuss private sector practices on plant equipment replacement. As might be expected, there were some significant differences between DOD and private sector practices, and some similarities. One key consideration in the decision process is, clearly, return on investment (ROI). While the military services generally perform an economic analysis for all equipment replacements over a nominal $1,000 to $3,000 value, in private industry the impression that an actual ROI is required (as opposed to merely an economic analysis) comes across as an all-important consideration.

1. Factors Which Govern Equipment Replacement

At Caterpillar, there are four key factors which govern decisions to replace or refurbish equipment (not necessarily in order of importance):

-- Serviceability. Within DOD there is frequent mention of the age of equipment as governing the need for replacement; however, at Caterpillar, serviceability is more of a key issue. Actual age, per se, is of less importance. If equipment is "old" but serviceable and adequate from a production standpoint, there is little concern for its age. In reality, however, it was noted that product changes and recent realignments of some production facilities created an opportune time for some replacements and contributed to a relatively low average age of the company's equipment as compared to DOD--approximately 10 years overall. Age, therefore, is a factor only when it becomes difficult to repair an item because of the unavailability of spare parts or the loss of the skills necessary to maintain the equipment.

-- Quality of Output. If the quality of a machine's output becomes marginal because of age, wear, etc., it becomes a candidate for replacement or refurbishing. Generally, because of advancing technology, if equipment is over 20 years old, greater productivity can be obtained from a new machine; therefore, remanufacturing occurs primarily where the operation and productivity of the machine remain relatively constant over time, e.g., an automatic screw machine. A rule-of-thumb regarding remanufacture is that the cost of rebuilding may not exceed 70 percent of the cost of new equipment. This is considered a guideline, however, as tax laws, especially those which permit rapid depreciation of new equipment, may dictate purchase rather than remanufacture.

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-- Improved Process Methodology. Obsolescence is a major reason for equipment replacement. Here, ROI figures heavily in the decision particularly if a new machine is capable of greater productivity. Before a final decision is made, however, all process alternatives for performing a given task will be evaluated, e.g., burning versus cutting or drilling, etc. Also, investment in equipment for new products takes precedence over other equipment replacement considerations. This is somewhat similar to certain parts of DOD, e.g., at the Navy's aircraft maintenance activities where expenditures for equipment to support new systems has represented about 55 to 60 percent of the total annual dollar outlays for equipment purchased before the new Asset Capitalization Program was instituted.

-- Safety. If there appears to be any danger in the continued operation of a piece of equipment, or because of Office of Safety and Health Administration (OSHA) considerations, a machine will be evaluated for rebuilding or replacement.

2. Relationship of Equipment Replacement to Taxes

Taxes strongly influence decisions to purchase new equipment. This contrasts markedly to DOD where prior to the new policy the services had been required to depreciate equipment, as more or less of an accounting exercise. Therefore, the net effect to date has been almost nil because no funds for equipment replacement were generated from the depreciation, except for non-DOD customer orders, e.g., FMS sales. In private industry, however, equipment is depreciated at the maximum allowable rate. Generally speaking, the faster equipment can be depreciated, the more likely it is that investment in replacements will occur. The tax life (the number of years over which a piece of equipment can be depreciated) and the actual life (used for determining the cost of producing a product) are therefore the two main economic determinants for plant equipment replacement. Even though tax life is not directly relatable in the DOD environment, the fact that the equipment is being truly depreciated with the customer paying for the depreciation on a reimbursable basis will put DOD on a more business-like approach to equipment modernization.

3. Comparison of Authority Levels

There was general agreement in the discussions at Caterpillar that OSD's capitalization program is a step forward as it places decisionmaking and the authority to carry them out at the lowest possible levels. A somewhat parallel situation exists at Caterpillar, in respect to the relative autonomy of the individual plants where the plant manager is largely responsible for investment decisions subject to General Office (Corporate headquarters) oversight and/or approval. Concomitant with this authority, however, is the measurement of each plant in terms of its profit, which, of course, DOD does not measure.

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Obviously, over investment or investments with a marginal ROI will reflect an unfavorable profit picture--a self-policing motivator which can be compared to the "loss of competitiveness" resulting from an inordinately high "sales" rate in a DOD depot maintenance activity if less than cost-effective PE investment occurs.

Approval and oversight responsibilities are also similar in the two environments. At Caterpillar, each plant develops its investment forecast in September preceeding the budget year. The General Office reviews the forecast and, depending upon the funding to be made available, allocates individual plant funding according to need and past performance. Generally, as far as investment is concerned, the General Office exercises oversight responsibility; however, for plant equipment, each item must be approved by the General Office. Approval is based upon a thorough economic analysis and must reflect a favorable ROI.

The above procedure at Caterpillar is akin to the headquarters/depot relationship; specifically, the dialogue that occurs between a General Office coordinator and a plant representative, and that of two counterpart personnel in the services' logistics command headquarters and the plant equipment representative at the depots. The point to be made is that the General Office/plant relationship functions effectively in the profit motivated private sector. As a similar relationship exists in the military environment (even though depots previously have had little ultimate control over their plant equipment funding), the capitalization initiative should represent an improvement if one accepts the premise that decentralized authority appears to work well in the private sector.

4. Need for Interchange of Experience

Caterpillar Tractor Company, a company employing some 85,000 people with total sales in 1981 of $9 billion had an investment program of $800 million for the year, which included $200 million for plant equipment. (The program has since been reduced somewhat due to economic conditions.) Within DOD this compares roughly to the Navy Industrial Fund with "sales" of $10.9 billion (FY 1981) and PE investment of $100 million. Although a successful company (49th in sales in the United States in 1981, according to Forbes) with admittedly different products and objectives than those of DOD, there are certain lessons that can be learned from private sector experience. Of particular importance are the points made regarding the reasons for equipment replacement and the establishment of authority and responsibility at the lowest possible levels.

Catepillar Tractor personnel also expressed their opinions during the visit that a greater exchange of information on the subject of equipment status between private industry and DOD industrial plant officials may be beneficial. Although the expense of travel is acknowledged, benefit to DOD and hopefully the private sector, of a planned, intensive interchange should not be discounted. In addition, because of the difficulty DOD has had in quantifying and expressing its PE problems, there is the possibility of taking advantage of industry expertise for an evaluation and quantification of a given depot's or service's plant equipment situation.

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PREPARED STATEMENTS

Mr. **Addabbo**. To assist the Department in preparing for this hearing, a copy was made available to DOD earlier this week.

The primary witness is Mr. Paul Dube, Director for Operations in the OSD Comptroller's shop. He is accompanied by additional witnesses who will be able to respond for each of the military departments.

Mr. Dube, you have appeared frequently before this committee and it is nice to have you back. Would you summarize your statement which will be placed in the record in its entirety.

[The statements of all witnesses follow:]

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Prepared Statement of Mr. Laurence Paul Dube, Director for Operations, Office of Assistant Secretary of Defense (Comptroller)

Mr. Chairman and Members of the Committee:

It is a pleasure to appear before the Committee to discuss the Department's proposed Industrial Fund Capitalization initiative. Representatives from each of the Military Departments are also here with me to discuss the specifics of this initiative as it relates to their Industrial Funds and their programs. The Service representatives are available to discuss their programs in detail. Therefore, I will briefly address the initiative from the DoD-wide perspective and concentrate on the aggregate amount of DoD resources involved.

Industrial Funds were authorized by the Congress in the mid-1950s for for the operation of certain commercial and industrial-type activities. These activities operate through a working capital fund concept utilizing financial management and accounting systems similar to those found in private businesses. Industrial Fund activities enter into contractual relationships with their customers, plan the size of their operations and workforce to meet customer demands, and recover their costs through rates charged their customers (primarily appropriated funds) for the services or products provided.

The Department has five Industrial Funds - Army, Navy, Marine Corps, Air Force and Defense. These Industrial Funds finance such diversified functions as: shipyards; aircraft, ordnance, and other depot maintenance activities; research activities; transportation activities airlift, sealift, and traffic management; public works centers; printing and publications; and other activities. These activities employ approximately 280,000 personnel. Projected costs in FY 1983 are estimated to be in excess of $21 billion.

While much of the day-to-day operating costs at our Industrial Fund activities are recovered through rates charged to their customers, most of the costs of equipment purchases are not. Currently most equipment for our Industrial Fund activities is purchased with appropriated funds, primarily procurement appropriations. The Department's Industrial Fund Capitalization initiative provides for purchases of such equipment to be initially financed with Industrial Fund resources. Such costs would be subsequently recovered by Industrial Funds through a depreciation charge included in the rates charged their customers. Our proposal encompasses most of the types of equipment which would be found at our Industrial Fund activities. Some exclusions, however, are proposed. These exclusions are listed below:

- Army Supply Functions, Navy Planning and Engineering for Repair and Alterations and Sea Center Atlantic/Pacific offices, and the Air Force Airlift Services Industrial Fund (MAC).
- Ships for the Military Sealift Command.
- Equipment which is normally procured and installed using Military Construction appropriated funds.
- Equipment needed primarily to meet mobilization requirements when no or limited peacetime application exists.
- Equipment initially procured and furnished as part of a weapon system/support system when funded by the weapon system manager.
- Equipment normally provided as Government Furnished Equipment.
- Aircraft and Ships.
- Major Range and Test Facilities Base equipment.
- Equipment for tenant activities and military support functions.
- Such other exclusions as may be approved by the Assistant Secretary of Defense (Comptroller).

This initiative is being proposed as part of the Department's efforts to improve efficiency and productivity within DoD. Modern facilities and equipment are critical to achieving maximum efficiency in our Industrial

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Fund operations. This proposal will result in Industrial Fund activities operating more nearly as a business. Such action can be anticipated to result in a financial management system which will provide incentives to encourage the investment of capital in our Industrial Fund activities. This will achieve more efficient and productive operations at Industrial Fund activities, which in a the long run will lower DoD costs. This change will also result in a charge to the customer which more nearly reflects the true costs of the applicable product or service provided. Currently, such charges are understated, in part, due to the exclusion of those costs associated with equipment purchases.

This proposal affects both the appropriations which will ultimately finance equipment purchases and the fiscal period in which resources will be required. Under the current system most equipment purchases are financed from procurement appropriations. Under the Department's proposal, the costs of equipment purchases will be borne by the various customers of the Department's Industrial Funds. It is these customers, of course, that receive the benefits of such equipment. Additionally, under the current system financial resources are appropriated in advance of purchasing such equipment. Under the equipment capitalization program, Industrial Funds will initially finance the purchase of equipment and subsequently recover these costs from applicable customers in future years as the equipment is utilized. Appropriated funds will be requested over the fiscal periods in which equipment is in use rather then in the year of purchase. (This policy is similar to that practiced in the private sector.) We believe that our initiative will more nearly identify costs to the benefiting program/appropriation and more accurately display costs in the fiscal period that such costs are incurred (i.e. the equipment is used).

Consistent with the proposed policy change, the President's budget provides for our Industrial Funds to recover approximately $240 million through depreciation charges in FY 1983. These depreciation charges are associated with items of equipment previously purchased for our Industrial Funds. The FY 1983 President's budget also provides for Industrial Fund activities to place orders for approximately a little over $700 million worth of equipment. This equipment is estimated to be delivered over the FY 1983-85 time frame. These costs will be recovered through depreciation charges in subsequent years as the equipment is used. The President's budget does not request any funds for FY 1983, in either the Department's procurement appropriations or other appropriations, for the purpose of purchasing equipment encompassed by the proposed Industrial Fund capitalization program. Purchases of equipment encompassed by the Department's initiative will be initially financed by the Department's Industrial Funds.

For the Committee's convenience, I am providing a table which shows the amount of equipment purchases provided for in the FY 1983 President's budget as part of our initiative as well as the outlays associated with these purchases.

DEPARTMENT OF DEFENSE INDUSTRIAL FUND CAPITALIZATION INITIATIVE
SUMMARY OF PROPOSED EQUIPMENT PURCHASES
($ IN MILLIONS)

	Obligations	Outlays		
	FY 1983	FY 1983	FY 1984	FY 1985
ARMY	225	45	125	55
NAVY	350	70	190	90
MARINE CORPS	5	1	3	1
AIR FORCE	125	25	70	30
DEFENSE	1	*	1	*
TOTAL	706	141	389	176

* Less than $500,000

The Department believes that the proposed Industrial Fund equipment capitalization program will increase the level of investment at our Industrial Fund activities and lower overall costs to DoD. We strongly believe that this initiative will better serve the objective of providing more effective and economical operations at our Industrial Funds.

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INDUSTRIAL FUNDS - HOW THEY OPERATE

- o Industrial Funds are commercial and industrial-type activities. These activities operate through a working capital fund concept and utilize financial management and accounting systems similar to those found in private businesses.

- o The Department currently has five Industrial Funds - Army, Navy, Marine Corps, Air Force and Defense. These Industrial Funds include the following types of functions:

  - o ARMY - depot supply and maintenance facilities, arsenals, missile material development and acquisition, research and development activities, and the Military Traffic Management Command (MTMC).

  - o NAVY - aircraft maintenance facilities, ordnance stations, research and development activities, shipyards, printing plants, public work centers, strategic systems project offices, and the Military Sealift Command.

  - o MARINE CORPS - depot maintenance facilities.

  - o AIR FORCE - depot maintenance facilities, real property maintenance facility, laundries, and the Military Airlift Command (MAC).

  - o DEFENSE - clothing and textile center and communication services.

- o Industrial Fund budgets, estimated manpower requirements, and customer rates are subject to review and approval as part of the DoD budget formulation and review process.

- o Industrial Fund costs are recovered through charges (customer rates) paid by Industrial Fund customers (primarily appropriated funds) for the services or products these customers purchase from the Industrial Funds.

- o Industrial Funds can not incur obligations in excess of the amount of resources that are available to the Industrial Fund.

- o Industrial Fund resources primarily consist of cash and unobligated balances (unused obligational authority).

- o Industrial Funds receive their obligational authority through funded orders provided by their customers.

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SUMMARY DATA - COSTS, SALES, AND STRENGTHS
Department of Defense Industrial Funds

	FY 1981	FY 1982	FY 1983
Sales ($ In Millions)	17,419.2	20,168.5	24,539.4
Army	2,628.5	2,906.3	3,133.8
Navy	9,390.8	10,876.8	15,762.8
Marine Corps	69.3	72.3	80.7
Air Force	4,692.1	5,681.0	4,855.6 1/
Defense	638.5	630.1	706.5
Cost of Operations ($ In Millions) 2/	17,264.6	20,310.9	24,048.8
Army	2,579.9	2,856.2	3,048.4
Navy	9,314.4	11,098.7	15,595.6
Marine Corps	66.3	70.9	80.7
Air Force	4,700.7	5,623.0	4,619.6
Defense	603.3	662.1	704.5
New Customer Orders ($ In Millions) 3/	19,364.8	20,706.2	21,267.6
Army	2,638.5	2,956.4	3,117.0
Navy	10,941.2	11,203.7	12,483.9
Marine Corps	62.5	76.8	87.4
Air Force	5,090.7	5,839.4	4,859.8
Defense	631.9	629.9	719.5
Civilian End Strengths (In Thousands)	278.0	276.5	281.0
Army	65.4	64.2	64.7
Navy	167.9	167.7	171.5
Marine Corps	1.3	1.3	1.5
Air Force	41.7	41.6	41.6
Defense	1.7	1.6	1.6

Amounts may not add due to rounding.

1/ Excludes commercial depot maintenance contracts in FY 1983. The President's budget provides for these depot maintenance contracts to be awarded directly between the customer appropriations and the contractor.

2/ Cost of goods and services sold.

3/ Customer orders are funded requests from customers of the Industrial Fund to provide services or products as applicable. New customer orders are those customer orders which are recieved in the current fiscal period and are supported by appropriate funding documents.

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PROPOSED POLICIES RELATIVE TO DoD'S PROPOSED CAPITALIZATION INITIATIVE
(To be effective 1 October 1982)

- Industrial Fund equipment will be purchased by Industrial Fund activities except in the case of the following exclusions:
  - Army Supply Functions, Navy Planning and Engineering for Repair and Alterations and Sea Center Atlantic/Pacific offices, and the Air Force Airlift Services Industrial Fund (MAC).
  - Ships for the Military Sealift Command.
  - Equipment which is normally procured and installed using Military Construction appropriated funds.
  - Equipment needed primarily to meet mobilization requirements when no or limited peacetime application exists.
  - Equipment initially procured and furnished as part of a weapon system/support system when funded by the weapon system manager.
  - Equipment normally provided as Government Furnished Equipment.
  - Aircraft and Ships.
  - Major Range and Test Facilities Base equipment.
  - Equipment for tenant activities and military support functions.
  - Such other exclusions as may be approved by the Assistant Secretary of Defense (Comptroller).
- Equipment with unit acquisition costs of under $1,000 or a useful life of two years or less will be expensed. Equipment with unit acquisition costs of $1,000 or more and a useful life of more than two years must be capitalized and depreciated.
- Unit acquisition costs will include all costs necessary to place the item in use (e.g. purchase price, transportation, installation, testing, etc.)
- Depreciation of capitalized equipment assets will be computed using acquisition costs less residual value on the straight-line basis over the estimated useful life of the asset.
- Capital equipment assets must not be fully depreciated while still in use at an Industrial Fund activity.
- No adjustment will be made to prior years' costs for depreciation charges resulting from changes in the estimated useful life of capital assets. Rather, the remaining depreciated value will be written off over the estimated revised remaining useful life.

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- o Depreciation is to be recorded at the activity at which the equipment is actually used. Depreciation is to be recovered through inclusion in the applicable Industrial Fund activity's rates.

- o Industrial Funds will be required to develop equipment budgets for both the amount of equipment to be purchased (ordered) and the cash disbursements required to meet delivery (and payment) dates. Industrial Funds will not be permitted to exceed approved capital equipment budgets without prior approval.

- o Industrial Funds will be required to continue to comply with all DoD, OMB, congressional, and other requirements relative to the management and approval process for the purchase of equipment, as well as other restrictions relative to purchases of equipment.

- o Purchases of capital equipment must be adequately documented, to include justification and economic analyses, to ensure that post-investment appraisal and audit can be performed.

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Prepared Statement of Mr. Robert W. Thornett
Assistant Director Resources and Management, Office of the Deputy Chief of Staff for Logistics

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to appear before this committee to discuss the industrial fund capital equipment purchase policy. This exciting initiative has the full support of the Army, as we desperately need to modernize our industrial fund activities and increase our capabilities to current state of the art conditions.

The average piece of equipment in these facilities is currently 15 years old. The rate of Government equipment replacement and modernization has severely lagged behind investments made by commercial industry. Consequently, Government sector productivity gains have not been what they might be. Modern and responsive industrial bases are critical for economical peacetime operations and to support the potential mobilization and sustained operations of defense forces during wartime operations.

The new equipment policy will be applied in the Army's maintenance, armament production, research and development, and port operations facilities. The Army Industrial Fund budget for Fiscal Year 1983 proposes to incur obligations in the amount of $225 million for the purchase of capital equipment for our industrial fund activities. As the delivery of this equipment will take place over the Fiscal Year 1983-1985 timeframe, we anticipate outlays (payments to vendors) of only $45 million for equipment delivered during Fiscal Year 1983.

In terms of the impact of the new policy on Army Industrial Fund customers, customer rates to be charged in Fiscal Year 1983 have been set so as to recover the costs of depreciating the capital equipment. The Fiscal Year 1983 Army Industrial Fund budget and the appropriation requests of the Army Industrial Fund customers include $69.6 million for this depreciation.

Specific equipment purchases will be determined by the installation commander in conjunction with equipment managers with subsequent review by the major commands (US Army Materiel Development & Readiness Command and Military Traffic Management Command) during the budget process. Obligation targets for Army Industrial Fund capital equipment budgets will not be exceeded without prior approval by the Office, Secretary of Defense. The Army Industrial Fund major commands are establishing management procedures designed to assure that adequate cash reserves will be available to meet cash outlays for equipment in the month delivered. We in the Department of Army Headquarters have established a quarterly reporting requirement to monitor obligations for equipment purchases and actual cash outlays.

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Prepared Statement of Rear Admiral Richard A. Miller, U.S. Navy
Director, Office of Budget and Reports - Fiscal Management Division

I am here today to discuss the capitalization of industrial fund equipment. First, I would like to stress that the Department of the Navy fully supports this initiative to inprove our organic industrial base and has taken steps to aggressively implement the program. Before addressing our implementation, I would like to provide you some information concerning the scope and condition of our industrial fund facilities.

The Department of the Navy has 52 activities financed in the Navy and Marine Corps Industrial Funds, composed of shipyards, aircraft rework facilities, ordnance and missile maintenance facilities, public works centers, combat vehicle overhaul facilities, research and development centers, printing plants, and the Military Sealift Command. These activities will do about $13 billion in business during FY 1983. Our industrial base is not new nor is it modern. While we have maintained the capability to service our complex ships, aircraft and weapons, we have not invested sufficient capital over the long term, to keep pace with technology and retire inefficient equipment. Much of the equipment in use at these activites is over 20 years old. Consequently, operations at these activities are not as efficient and effective as they could be. Our old and outmoded equipment results in high maintenance costs, excessive material waste and a labor intensive operation.

Our records indicate that the initial acquisition value of our industrial fund plant equipment is about $2 billion. We estimate that current replacement value is almost $6 billion. If one assumes that we should be replacing our equipment every 10 years based on average useful life, we should be recording about $600 million in depreciation each year and investing a like amount. In contrast, we actually have been recording a little over $100 million in depreciation in recent years. We have been investing an amount about equal to that. This practice has resulted in our equipment being quite old and in many cases fully depreciated.

For our initial implementation planning we have utilized rough measures to estimate the amount we should be investing each year. I have previously mentioned a $600 million estimate based on a $6 billion inventory replacement value and a 10 year average useful life. We attain the same result if we apply the U.S. private industrial sector capital investment rate of about 5% of revenues to our estimated revenues. We have planned a lower investment program of $355 million for the first year as we accomplish more comprehensive requirements planning and gear-up for program execution. During our FY 1983 budget formulation process we ensured that this initial $355 million was supported by firm equipment requirements contained in individual Activity Group modernization plans. The Department is now formulating a long range plan which will define and consolidate our equipment requirements for our entire industrial fund base. This plan will be updated yearly and will form the basis for the obligational authority and costs for equipment acquisition to be included in each year's industrial fund budget. Additionally, our detailed financial management policy for this investment program, based on OSD's guidance, is now ready for publication. This policy encompasses both budget formulation and execution, including internal approval thresholds and management controls. We have been developing plans for this transition since August 1981 and there has been wide representation in this process. The Department of the Navy is ready to execute the program starting at the beginning of FY 1983.

During our implementation of this policy we took a hard look at the effect on the "customer" appropriations of the industrial funds. For FY 1983 we transferred sufficient funds from the direct appropriations that previously funded this equipment to the customer appropriations, primarily Operation and Maintenance, to compensate for the higher industrial fund rates needed to finance equipment acquisition costs. So, in FY 1983 there will be no adverse effect on the industrial fund customers. In the long run, reduced costs

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resulting from the use of more modern equipment (maintenance, material waste, manpower, etc.) should outweight the costs of acquiring the equipment. Consequently, we should see a beneficial effect on the rates charged the customers. However, these productivity gains will lag behind the cost of acquiring the equipment due to the time required for equipment installation and checkout, workforce "learning" and overall plant optimization. Therefore, in the short term, we should experience a net increase in customer rates. Until we achieve the cost efficiencies, we will carefully control the growth of this program in order to minimize the programmatic impact on the customer appropriations.

In summary, the equipment capitalization policy will provide the opportunity to manage our industrial fund activities more nearly like a business. The management responsibility for capital resources will be aligned with the responsibility for the cost of industrial fund operations. This will allow us to recapitalize our industrial facilities to achieve more efficient and productive operations. Additionally, we will more nearly see the true cost of goods and services provided by these activities. And, since these costs are reflected in the customer appropriations, a more accurate cost measurement of Naval mission areas will result.

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Prepared Statement of Colonel Charles D. Metcalf, Deputy Director of Budget (Operations), Comptroller of the Air Force

Mr Chairman and Members of the Committee:

I am pleased to be able to discuss with you the new OSD initiative for capitalization of equipment in the Industrial Fund (IF). For the Air Force this includes three activities:

The first is the San Antonio Real Property Maintenance Agency (SARPMA), a consolidated, inter-Service activity which performs the maintenance for several bases in the San Antonio area. The costs of operation in FY 1983 are budgeted at $150 million.

The second is a small activity that performs laundry and dry cleaning for both appropriated fund activities and individuals at four CONUS and five overseas locations. The FY 1983 budget for this activity is $5 million.

The depot maintenance operations at five Air Logistics Centers and the Aerospace Guidance and Metrology Center (AGMC) constitute the third activity and represent 93 per cent of the costs of operation for these three industrially funded activities. Depot maintenance is an equipment-intensive operation for which we have programmed $123.5 million for equipment purchases in FY 1983. This represents nearly 99 per cent of the $125.1 million for the three activities.

Capitalization of IF assets, collection of depreciation expenses through customer user charges, and purchase of IF equipment with IF resources promises to improve productivity and efficiency within DOD. IF activities will now have a more direct participation in both programming and budgeting for capital assets. Direct involvement in the capital equipment budgeting process will allow IF activities to program and acquire new equipment consistent with workload needs, productivity payoff, and economic replacement criteria.

One of the biggest advantages of the capitalization process will be IF management control, within established guidelines, over the dollar resources to be used for capital equipment purchases. No longer will there be separation of operating responsibilities from programming and budgeting responsibilities. IF managers will have greater influence over the financing of capital investment items. Furthermore, capability to finance capital purchases will be directly linked to efficient fund operation. The IF is progressing more and more to a self-contained, businesslike operation using revenues to finance more of its needs.

Budget controls in the equipment arena are being structured for total dollar controls. Equipment purchases and outlay budgets are required, consistent with OSD guidance. Major commands review activity level budgets for equipment requirements, and forward an equipment budget as part of the formal IF budget submission. Purchases over $100,000 must have written analyses and justification on file. Purchases under $100,000 need not have written analyses on file but must be included in documented local equipment reviews. Equipment budgets will be reviewed and approved by HQ USAF and OSD and may not be exceeded without OSD approval. Major commands may delegate approval to activity levels for purchases up to $100,000. Capacity or capability enhancing equipment may not be purchased without specific OSD approval. Existing equipment

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Turning to the depot maintenance activities, the AFLC industrial complex uses DOD-established, useful life data published in Joint Service manuals as an element in determining which equipment items should be considered for modification, rehabilitation, or replacement. Once the candidate items are identified, equipment managers review workload and economic criteria to make the decision of what action to take. OSD has authorized the Air Force to obligate $123.5 million for equipemnt purchases through the Depot Maintenance Industrial Fund in FY 1983. Approximately $25 million of this amount will be cash outlay in FY 1983 due to the extended lead times for major equipment purchases. A charge for depreciation has been added to depot maintenance sales rates beginning in FY 1983 which will be used to generate funds for equipment purchases. A total of $56.5 million is expected to be generated in this manner during FY 1983.

In summary, the Air Force supports the capitalization initiative as a means of putting Industrial Fund activities on a more business-like basis. Further, this initiative can enable the Air Force to purchase equipment consistent with needs to perform work productively.

I will be happy to answer any questions you may have.

OPENING OSD REMARKS

Mr. Dube. Thank you, Mr. Chairman.

I appreciate the opportunity to appear before you to support this initiative which we consider extremely important to the operation of our industrial activities.

I would like to introduce the witnesses here at the table with me. On my left is Admiral Dick Miller for the Navy; on my right, Mr. Bob Thornett for the Army; and Colonel Charlie Metcalf of the Air Force. We have additional witnesses who can provide additional information beyond that which we have brought to the table.

I have a few introductory remarks. Then we will be prepared to answer questions.

You described the proposal that we have presented in the budget. The context in which we will be looking at this decision can get to be complicated. There are a lot of different considerations associated with it. We will be talking in terms of depreciation rates, useful lives, appropriation versus industrial fund accounting and budgeting techniques, obligational authority, payout streams, cash positions, et cetera.

Despite a fairly complicated context, the proposal is really quite simple. It is to procure this equipment in the industrial fund and to reflect the cost of the use of that equipment in the cost of the work that is billed to customers and collected from customers.

It is a very basic change but it is one of degree. We instituted in recent years a fast payback program. Items which met certain criteria, up to certain dollar limits and with a payoff of a very short time, we have been buying in recent years in the industrial funds.

It is a very limited program because the ground rules are very limiting. The payback must be very fast—for example, the limit currently is items of equipment costing not more than $300,000 and having a payback of less than three years.

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A good deal of the equipment we need simply won't pay for itself in that period of time. There is a much longer recapture period. But the fundamental principle is the same, involving purchase in the industrial fund and a recoupment through depreciation charges amortized over the life of the equipment.

The question really is why make a change of this nature at this time? We believe there are several shortcomings in our current methodology for budgeting and funding for these equipment purchases. We think the level of decision-making is wrong. If there is a recurring theme in the S&I report, it is that the amount of appreciation and understanding and knowledge of the equipment situation is in almost directly inverse proportion to the distance from the individual operating activity.

The diversity of the activities and the diversity of the equipment requirements make it extremely difficult to accurately and effectively aggregate all that data and retain meaningful information that has been aggregated over a whole host of different types of activities.

We think the S&I staff report indicated that the knowledge of the problem and the needs for the fix is at the activity level, and then at the intermediate management echelons between here and there.

We don't think we are properly reflecting costs because the cost of the equipment required to do the work that is done at these industrial activities is simply not reflected in the budgets of the customers and the charges that they incur. We think that is a deficiency in the current system.

A third deficiency is that we believe the level of procurement, the amount of equipment that we have been buying each year, is not adequate to meet the needs of the operation.

If this proposal is approved, we see some major and significant benefits in those three areas. It will reorient the decision mechanism about the amount to be spent and the process for gaining approval to make the equipment purchases that need to be made in order for the individual activities to effectively accomplish their responsibilities.

The people who are responsible for doing the work and the people that we want to hold responsible for keeping costs to the minimum are the ones who are going to have the major input into making these decisions, addressing the impact that it is going to have on their rates, and insuring that the equipment purchase decisions are considered carefully in the context of what is needed at the activity. Our proposal will more accurately reflect the cost and we will be reflecting these costs in a manner more related to the way private industry reflects these costs.

That will give us a better ability to hold managers responsible for the decisions made about equipment purchases.

We expect that it will lead, over the next few years, to a higher level of investment in plant equipment. In summary, we think it is a sound idea. We are, in my view, better prepared to defend the concept than any single specific investment level in any specific year, but we are prepared to try to answer your questions both about the concept involved and our plans for implementing it.

Mr. ADDABBO. Thank you.

Mr. Thornett, do you have a statement? Your entire statement has been made part of the record. Briefly summarize it for the committee.

OPENING ARMY REMARKS

Mr. **THORNETT**. Yes, Mr. Chairman. I also appreciate the opportunity to appear before the committee to discuss this policy.

The Army is fully behind and in support of this initiative. We think it is an exciting policy to bring our industrial activities up to the current state of the art in terms of equipment. This policy will be applied to our maintenance, armament production, research and development, and port operations facilities.

Our budget proposes obligations of $225 million in terms of purchases during 1983 for capital equipment under this new policy. We expect outlays of $45 million and depreciation expenses of $69 million which we will charge to our customers.

In summary, Mr. Chairman, we are in favor of this policy. We are anxiously awaiting the implementation of it October 1st upon your approval and, of course, I will be pleased to answer any questions that the committee may have.

Mr. **ADDABBO**. Thank you very much.

Admiral Miller?

OPENING NAVY REMARKS

Admiral **MILLER**. Mr. Chairman, the Department of the Navy is very pleased to be here to testify on this subject. We have been a very staunch supporter of the system right from the beginning. The Navy has the largest and most complex of the industrial organizations. We have 52 separate industrially funded activities across five different activity groups, and we have developed a plan to execute this program in a very careful manner from the bottom up, getting the input from people at all stages and trying to pattern it as closely as we can to the business practices that are used in industry to capitalize their equipment.

We are expecting approximately $90 million worth of outlays in the first year which approximates the depreciation that we have for the first year.

I am ready to answer any of your questions.

Mr. **ADDABBO**. Thank you, Admiral.

OPENING AIR FORCE REMARKS

Colonel Metcalf, this is your first appearance before the subcommittee. Your biography will be made part of the record.

[The biography of Colonel Metcalf follows:]

BIOGRAPHY OF COL. CHARLES D. METCALF

Colonel Charles D. Metcalf is Deputy Director of Budget (Operations), Office of the Comptroller of the Air Force, Headquarters U.S. Air Force, Washington, D.C.

Colonel Metcalf was born on June 18, 1933, in Anamosa, Iowa, and graduated from Anomosa High School in 1951. He graduated from Coe College, Cedar Rapids, Iowa, in 1955, with a bachelor of arts degree. He received a master's degree in business administration from Michigan State University in 1964. He completed the Air Force Squadron Officer School in 1962, and the Air War College in 1974.

On October 30, 1955, Colonel Metcalf entered the Air Force as a Distinguished Graduate of the Coe College Air Force Reserve Officer Training Corps Commissioning Program. His initial assignment was as accounting and finance officer, ASAF Hospital, Wimpole Park, England. In 1958 he became the accounting and finance officer at Donaldson Air Force Base, South Carolina. He was next assigned as the accounting and finance officer at George Air Force Base, California, where he served until 1962.

Colonel Metcalf became the first accounting and finance officer to be assigned in the Republic of Vietnam. He activated the first accounting and finance office in-country in 1962 at Tan Son Nhut Air Base.

Upon completion of graduate work at Michigan State University in 1964, he was assigned to Headquarters Air Defense Command as Chief of the Operations Division, Directorate of Budget.

Colonel Metcalf was assigned to the Air Staff as Plans Officer in the Office of Aerospace Programs in 1967. In 1968 he was selected to serve as Executive Assistant to the Assistant Secretary of the Air Force for Financial Management.

He returned to Headquarters Aerospace Defense Command in 1971 and served for nearly two years as Deputy Director of Budget for the command. After graduating from Air War College in 1974, he became the Director of Budget in the office of the Deputy Chief of Staff, Comptroller, Headquarters Military Airlift Command.

Colonel Metcalf returned to the Pentagon in 1975 as Deputy Chief of the Operating Appropriations Division, Directorate of Budget, Headquarters United States Air Force.

Returning to Headquarters Military Airlift Command in 1976 he again served as Director of Budget until 1978. On July 1, 1978, he assumed the position as Deputy Chief of Staff, Comptroller. He assumed his present duties in June 1982.

His military decorations and awards include the Meritorious Service Medal with three oak leaf clusters and the Air Force Commendation Medal.

He was promoted to the grade of colonel on November 1, 1975, with date of rank November 13, 1974.

Colonel Metcalf is married to the former Patricia Sedlacek of Cedar Rapids, Iowa. They have two daughters: Christin and Karen. His hometown is Anamosa, Iowa.

Colonel **Metcalf**. Mr. Chairman, I am pleased to be here to echo the Air Force along the lines of the other witnesses. We in the Air Force see one of the biggest advantages of the capitalization process to be in the industrial management control within established guidelines; the control over the dollar resources to be used for capital equipment purchases.

No longer will there be separation of operational responsibilities from programming and budget responsibilities. The industrial fund managers will have greater influence over the financing of capital investment items. Furthermore, capability to finance capital purchases will be linked to efficient operation. The industrial fund is progressing more and more into a self-contained business-like operation using revenues to finance more of its needs.

In summary, the Air Force supports the capitalization initiative as a means of putting industrial fund activities on a more businesslike basis; and, furthermore, this initiative can enable the Air Force to purchase consistent with the needs to perform work productively.

I will be happy to answer any questions you have.

QUANTITATIVE EQUIPMENT DATA LACKING

Mr. **Addabbo**. Gentlemen, senior management personnel of the Department of Defense were requested by our Investigative staff to quantify the effect of the previous inadequate levels of industrial fund equipment acquisitions. Our investigators have reported that responses tended to be verbal descriptions such as "our equipment is outmoded, outdated, and old;" "the age of DOD's industrial plant is 25 years;" "some equipment was installed in 1903;" and similar descriptions. However, our investigators reported that no one at the senior management levels of the Department could quantify or further explain the equipment status problem that would be solved through the new initiative.

Has DOD approved such a large capital investment program without the necessary documentation to quantify the equipment condition to be corrected?

Mr. DUBE. Mr. Chairman, we don't think so. It would be incorrect to minimize the amount of effort that has gone into reaching this point. My predecessor spent a lot of time out in the field looking at these activities, discussing the proposal at various levels, including the activity levels.

It is true that we don't have aggregated and compiled in a usable way the full story in terms of hard statistics, adding up to—for example, the DOD average age of equipment, or classes of equipment—but fundamentally, that is because the aggregation of that data would render it rather meaningless.

I think the case is fairly clear that we have substantial areas in which we have not adequately invested in this equipment. The fact that we can't quantify it in single total numbers does not diminish the reality of the situation out there.

Mr. ADDABBO. Has the DOD established any type of baseline delineating in a quantitative manner, a basis against which future progress could be measured?

Mr. DUBE. The same problems I mentioned indicate to us that such a system is not likely to be usable as a true indicator of the progress that we will be making in that area; so I don't anticipate a highly quantified baseline to be used to measure exactly where our progress is taking us at any point in time.

Mr. ADDABBO. So you might again within the ballpark of determinations have some measure for each service. Is there a uniform system for determining the profile of DOD's industrial fund equipment or to monitor the program progress?

Mr. DUBE. Not a totally uniform system which could be applied to all. We don't have that in existence and don't contemplate that. I don't want to give the impression there is no information available in our financial data. We have in the data that we get estimates of the book value and remaining years of life and so forth.

Our problem is that the aggregation of that data makes those estimates and figures less than totally effective in terms of telling us exactly where we are or where we need to go. We think decisions of that nature are going to have to be made at a much lower level than at the DOD level.

Mr. ADDABBO. The equipment which will be modernized falls into two primary categories. The first category is Industrial Plant Equipment, which usually costs more than $1,000 and alters the physical, electrical or chemical properties and materials, components, or end items used in manufacturing, maintenance, processing, et cetera. The second category of equipment is Other Plant Equipment which is basically everything not included in Industrial Plant Equipment.

The only readily attainable data on the majority of the important Industrial Plant Equipment to be found at Defense Industrial

Plant Equipment Center. Isn't it true, however, that some of the military services do not report data to this center?

Mr. Dube. Not precisely. The Surveys and Investigation staff report was referring to the Air Force in that instance. The Air Force does provide the data to DIPEC. There is, however, at this time a problem of data matching, and utilization of that data. I would like to ask Colonel Metcalf to address that problem.

Colonel Metcalf. We do provide the data to DIPEC, but unfortunately the information does not contain all the elements that are utilized in the data bank at DIPEC. Also, there is no way for us to segregate at this time the industrial equipment from all the other equipment.

As with most computer programs, as you make the changes, they do take some time. We have that change underway now and it is scheduled for completion now in September of 1983. That is a year from now.

Mr. Addabbo. We are dealing with what appears to be, what will be millions of dollars. Why will it take us almost a year?

Colonel Metcalf. That is a fairly substantial change, Mr. Chairman. It is underway now. It is proceeding.

Mr. Addabbo. Who is directing the changes?

Colonel Metcalf. AFLC, Air Force Logistics Command.

Mr. Addabbo. Are they permanent officers or will we get a situation where they start working for six months and then are transferred and new people come in?

Colonel Metcalf. I believe the change is well institutionalized. We see great benefits to be derived from the change if nothing more than the simple identification of excess equipment that can be moved and utilized within our depots.

Mr. Addabbo. We also know the military is very reluctant to make changes. When we look for the changes, we are told a day in the future. That day in the future seems to be future-future. Will the same people responsible today be around next year, so we can hold them responsible?

Colonel Metcalf. Even myself.

Mr. Dube. Mr. Chairman, may I pick up on that point? This is an indication that the Air Force at the activity levels has a system for compiling that data. The problem is one of the transmission and compatibility of their program for conveying information to DIPEC. The information is there. It is bringing all of that information into a system that is common to the other services that creates that particular problem and that is an indication of the kind of challenges we will have.

It will be useful when it is all racked up and we have total coverage in the kind of data that DIPEC can produce. It is indicative of the problems of devising an overall system that adequately measures this.

Mr. Addabbo. Our investigators found the same problem with the Other Plant Equipment, because the information on that was not readily available and little guidance on its management and control was found to exist. Is this an accurate description and is it being corrected?

Mr. Dube. I don't anticipate that a centralized program of monitoring and controlling other production equipment is likely to occur I would assume the larger pieces of industrial production equipment would retain the focus of attention before we applied such a system to other production equipment.

Mr. **Addabbo**. Everything seems so vague and uncertain. There are no real guidelines. Our investigative staff has reported that since DOD has not quantified its plant equipment problem, it has not developed a plan with definitive goals and investment levels needed to correct the problem and, therefore, could provide no estimate of its cost. Investigators concluded that "in view of the above, it appears that an open-ended program in excess of $3.5 billion is being established." Would you care to comment on that conclusion?

If we have no real basis, how do we justify the $3.5 billion?

Mr. **Dube**. I think I would first start by saying $3.5 billion presumably is a five year program of $700 million. We have not developed a five year program nor do we have a clear indication of exactly where we are going or will have to go for all of the reasons I just mentioned. We are not committing to a program of that size, and if we implement it this way, we will be holding managers responsible for making these decisions and correlating the cost and payoff of those equipment purchases with their operations out there.

That will be the determining factor with respect to the level that we ultimately execute over these years. I don't think it is open ended in that sense. It is in a sense less open ended than a procurement appropriation program would be simply because the consequences of the purchase will be dealt with by activity managers in their rates.

It is not open ended. There will be controls on the levels of investment, and I expect it is going to be a much more effective means of accomplishing it than embarking on a program with appropriated funds.

Mr. **Addabbo**. Mr. Secretary, as you know, I have been very critical of the DOD's actions in giving up its prerogatives and giving up its responsibility of oversight of the military. It rubber-stamps, more or less, whatever the military wants. Will you have oversight? Or are you giving complete control to the services?

Mr. **Dube**. Again, I don't want to minimize the extent to which at the OSD level and service levels the equipment budgets will be reviewed in terms of how they relate to the cost to be incurred in the industrial fund activities and what effect that will have on both their operations and the rates to be charged. But we will be focusing our attention on that area rather than the relationship of those purchases to the other procurement decisions. I think we can more effectively bring oversight management into the process through this mechanism than our current system.

Mr. **Addabbo**. How are you going to oversee duplications? How are you going to oversee if you have no real guidelines and everything seems so nebulous. We are dealing with a large portion of defense dollars that any small mismanagement will mean possible loss of billions of dollars. How will you accomplish that oversight?

Mr. **Dube**. I would like to stress in doing this we will not lose a bit of the capability that we have.

Mr. **Addabbo**. You don't have much capability now. You have no way of telling us where or what. Everything is general. Now you have zero capability.

Mr. **Dube**. What I want to stress is we are not giving up any in that sense.

Mr. **Addabbo**. You don't have any. You can't lose any.

Mr. **Dube**. I think here we will be creating a system for doing this which will place the responsibilities more nearly where the effect of that action is going to be felt. As a result, that in itself should improve the management of these decisions.

Mr. **Addabbo**. How will you guarantee against or how will you oversee duplication?

Mr. **Dube**. Certain safeguards exist with respect to DIPEC. For example, in order to procure equipment a request has to be screened to assure there isn't excess equipment available. That will continue without reference——

Mr. **Addabbo**. Who is screening? The services or DOD?

Mr. **Dube**. The Defense Industrial Production Equipment Center, or DIPEC, maintains the list. In order to procure a piece of equipment of this nature, the service has to first let that need be known to DIPEC, which screens the system to assure that no such pieces of equipment have been reported as excess.

That will continue regardless of the financing. That is one of the safeguards against duplication or going out and buying the equipment that is available in excess.

In addition, the judgments that are made and the equipment that is bought will be subject to post-audit by the individual activities concerned at the various management levels concerned in terms of the appropriateness of the decision and the economic analyses behind it.

Economic analyses justifying the purchases will continue to be required. So there are, I think, a number of safeguards to insure that——

COST TRANSFER TO OPERATING ACCOUNTS

Mr. **Addabbo**. I hope so. With the surcharge, you will be building up a large reserve of dollars. Each service will be building that up until they buy the equipment, until it is approved. As has been found out in the past, when there are dollars available, you have less careful scrutiny.

We need it, maybe we need it, we will go buy it, we have the dollars. If we run short, we can always jack up the surcharge.

Mr. **Dube**. Again, I want to stress when that is the case, the payment for that is going to have to be made by reflecting it in rates. It will be felt now by the activity manager. There is really a better protection against gold plating or buying equipment that you don't need, because under today's system, if an activity can manage to get included in the budget and get approved a piece of equipment that really isn't needed out there, he, in effect, pays no penalty. He doesn't have to live with that decision.

The procurement account that year finances it. The piece of equipment comes there. If it was a bad decision, it won't have any negative impact on his operation and how he does business.

That won't be true anymore, because he is going to be stuck with recovering those costs in his rates. In these activities, the rates are very significant. They become a measure within the various activities and among them for comparison among themselves and by the management echelons above them.

Mr. ADDABBO. Under the new system, would not the gold plating equipment buy be shared by all the customers of the industrial fund rather than the one who is responsible for asking for that gold plated equipment?

Mr. DUBE. Usually in this situation it wouldn't be the customers asking for the equipment. That is the decision of the people managing the activities involved. It is their decision.

Mr. ADDABBO. If they approve it, then all the customers will pay for that gold plating?

Mr. DUBE. That is right.

Mr. ADDABBO. Whereas under the present system, that system, that one being procured, he will be paying it solely? It comes out of his hide, out of his procurement? Whereas under your proposal he can go to the industrial fund and if it is approved by the body, then all the customers will be sharing that extra cost; is that what will happen?

Mr. DUBE. That is correct. He will then, in his billing structure, be passing on those costs which has a certain negative effect.

Mr. ADDABBO. It may tend to lead to more gold plating instead of less. His program will not show it. It will be shown over here.

Mr. DUBE. But that is his program. When we talk about the work that a given activity manager does for his customers, that is his program. While it is true he doesn't request in the budget the resources to finance that program, to an activity manager under these industrial funds, his program is the cost of doing the work that is being ordered by his customers.

It is a very important aspect of the performance in terms of whether they can hold their costs to lower levels than would otherwise be required.

B-1 EQUIPMENT

Mr. ADDABBO. On my favorite topic, the B-1, if there is special equipment required for the B-1 and that cost was going to be excessive, he goes to the industrial fund; they say okay, buy it. It is then charged over all the industrial funds, so the B-1 stays at $20.5 billion, but the cost is hidden over here in the industrial fund?

Mr. DUBE. No, we specifically exempted from this program the equipment that needs to be bought which is peculiar to a particular weapon system. That will not be charged this way. That will be continued in the weapons system line item.

That puts such a case on the same footing, essentially, as government furnished equipment where a particular piece of equipment is related to a specific weapon system, and only that one, it would be excluded from coverage here and the cost of that equipment would continue to be carried in a weapon system procurement budget. That wouldn't be an opportunity to accomplish that.

Mr. ADDABBO. The gentleman from Alabama.

Mr. EDWARDS. Can you assure the Chairman beyond all doubt that there are not any B-1 monies hidden in these accounts?

Mr. DUBE. I sure think I can.

Mr. ADDABBO. We haven't been asking the right questions.

Mr. **Edwards**. We are really trying to learn how to ask the right questions.

Did I ever tell you about the questionnaire I got back from the little old lady? She wrote me a note and said: Dear Congressman, I have tried to answer these questions the way I feel like you would want me to, but if I have failed, please feel free to change any answers.

[Laughter.]

Mr. **Edwards**. I need more constituents like that. We feel the same way about the Defense Department. We feel sometimes we don't ask the right questions and we really kind of depend on you fellows in positions of leadership over there to help us out if we don't ask the right questions.

If there is something we really ought to know that we are not smart enough to ask, we would like for you to help us a little.

Well, when you do, we will all have a big party.

BUDGETARY IMPACT OF ACP

The investigative report to the Committee indicates that the budgetary impact of the new Asset Capitalization Program, ACP, for fiscal year 1983 would appear to be a deletion of $280 million over the previous year from the procurement appropriations for industrial fund equipment purchases and the addition of $241 million for estimated equipment depreciation charges to the customer appropriations—primarily O&M—for a net decrease of $39 million in requested appropriation authority.

Do you agree that this is the net budgetary impact of a change of policy in fiscal year 1983?

Mr. **Dube**. Subject to a qualification on the $280 million estimate. We worked with the staff to provide that estimate. We don't have separate and clear identification in the procurement accounts right now, of the equipment going into these industrial activities. It is budgeted on a line item basis and similar items may be procured, some of which go into industrial activities and some of which don't.

We tried to construct that number based on best estimates of what is available and it appears to be a reasonable expression, but it is not an accountable number in that sense.

So that is an estimate of what we think probably would have been in the procurement accounts for these activities had we continued that way. Subject to that caution, that is a reasonable expression of the net impact.

Mr. **Edwards**. The customer accounts would be paying only $241 million into the industrial fund, the fiscal year 1983 plan would be to order $706 million worth of equipment. How will you be able to order $465 million worth of equipment for which you have no funds?

Mr. **Dube**. Under the industrial fund regulations, obligations are limited to the resources available, which are defined basically, in oversimplified terms, as the corpus of the fund plus any unobligated balances of customer orders placed, but not executed.

The obligations incurred for the equipment would be within the amount of unobligated balances existing in the industrial fund at the time. That provides the authority to incur those obligations in anticipation of future recovery.

Mr. **Edwards.** Are you saying you would not be obligating funds in excess of those approved by the Congress in the 1983 budget?

Mr. **Dube.** In effect, yes. The unobligated balances of the industrial fund come from the original appropriation of a corpus plus the appropriations which are financing the orders on hand that create those unobligated balances. So it would be within those amounts.

Mr. **Edwards.** So you would be using some of your own unobligated balances to make up that difference?

Mr. **Dube.** I have to be careful when you say "Those unobligated balances" whether you are pointing to a different set of unobligated balances than I am.

Mr. **Edwards.** Unobligated balances have been a long time concern of this committee. I just want to be sure we understand what it is you are doing with them.

Mr. **Dube.** I have to admit I don't know if the unobligated balances of the industrial funds are counted in the total of the appropriated funds. I really do not know. I will try to check that for the record.

Mr. **Edwards.** There are heads weaving and wagging behind you saying no, they aren't.

Mr. **Thornett.** I do not believe they are. But we must define it first.

Mr. **Dube.** That is why when you say the unobligated balances, I don't think I am talking the same unobligated balances that you are.

[The information follows:]

Unobligated balances of the Industrial Fund are included in the total unobligated balances reported by the Department. Unobligated balances of the Industrial Fund represent the net difference between available reimbursable obligational authority received by Industrial Funds and the obligations incurred against that reimbursable authority.

Mr. **Edwards.** Since depreciation revenues are not expected to cover equipment outlays until at least fiscal year 1987, there would appear to be a large funding shortfall each year which must be financed. According to our Investigative Staff, the customer appropriations would be required to pay approximately $648 million in excess of true depreciation costs assuming a level obligational authority of $706 million each year through 1985. How did the Department intend to finance these shortfalls?

Mr. **Dube.** Stressing again the assumption that was made in those numbers that the obligations would be $706 million each year—which is by no means certain—there would be an excess of outlays over collection in the 1985 time frame, and the precise amount of that difference will depend on both the amount that we order and the timing of those purchases as they deliver.

There are a number of options available to us. We haven't really decided exactly what combination we would use. We would have the option of providing depreciation surcharges in later years. We may consider going to accelerated depreciation charges. We may have the option of capitalizing profits should they occur to provide the cash that would be required to do that.

Actually there is also the option, which we would probably seek other alternatives to, of a request for a direct appropriation.

Mr. **Thornett**. Mr. Edwards?

Mr. **Edwards**. I was going to say, and you can expand on this. You have used the words "probable, may, perhaps" a few times in that answer. How will all this finally be resolved?

Mr. **Dube**. First by getting a handle on the amount of the shortfall. It will be affected by the size of any shortfall or outlay crunch and our cash position at that particular time. The context will have a bearing on exactly how we do that. I couldn't accurately tell you exactly how we will do it unless I had a better feel for what the context will be at that time.

Mr. **Thornett**. I wanted to expand on how we would finance these in later years. I don't want us to lose sight of the fact that from this equipment we are going to expect increased productivity in our plants. This could bring our prices down in terms of what we charge our customers.

Mr. **Edwards**. If the $706 million worth of equipment were to be ordered in fiscal year 1983 from the procurement appropriations, the full amount would have to be available to DOD through an appropriation. However, with the proposed industrial fund financing, the Department will order $706 million worth of equipment, but have only $241 million in additional appropriation authority.

If the Congress approves this action, will you in fact be committing us to incrementally funding an additional $465 million in appropriations in future years to cover the outlay costs when these are incurred?

Mr. **Dube**. There is no question that if $706 million worth of equipment is ordered, it will have to be paid for. It will have to be paid for out of the resources of the industrial funds which are generated in the amounts they charge their customers. Yes, the customer payments will eventually reflect the recovery of all of those costs. It will be reflected in future budgets.

Mr. **Edwards**. In that context then, it would be incremental funding in the sense that we would be making the annual appropriations to cover it?

Mr. **Dube**. That is correct; in that sense, yes. But in the form of the cost of performing the work of those activities as opposed to procuring of the equipment.

COST TRANSFER TO OPERATING ACCOUNTS

Mr. **Edwards**. When the prior low levels of equipment investments for procurement appropriations were provided as a justification for the initiation of new Asset Capitalization Program, the Investigative Staff pointed out to OSD officials that they need not have changed the policy to correct the situation since it was within their purview to rectify it by adequately and specifically funding the needed industrial fund equipment.

The investigators reported that "no Defense official with whom this was discussed disagreed with the Investigative Staff assessment; however, as one OSD official stated, in view of the overall priorities and limited availability of funds, plant equipment funding has always 'given way to funding of more sexy items, such as aircraft and missiles'."

I have never heard aircraft and missiles equated with sex before, but—is this report accurate in that it is easier for the industrial plant equipment to compete in the O&M accounts for resources rather than in the procurement accounts?

Mr. **Dube**. I wouldn't say easier in that sense. I would say it is a more appropriate context in which to look at it. The procurement budgets and the programs for the various major line items tend to be centrally managed at this level, and I think we have demonstrated that the information, the knowledge, the insight about the industrial equipment problems is at a lower level in the department than here.

It won't be easier to compete. It will be a more appropriate context in which to look at the effect of various equipment decisions in the O&M arena and will be done at a better informed level.

Mr. **Edwards**. The amount of funding which will be provided over, say, the next ten years for a modernization program would not necessarily be different regardless of whether the program was financed in the procurement accounts or the proposed customer charging procedure. Rather than set up an elaborate new process, why did DOD not make the straightforward decision to direct the services to provide a certain level of procurement funding for the industrial fund equipment program?

Mr. **Dube**. I think this is a key point. If in 1983 we had included exactly $706 million in the procurement accounts, we wouldn't have achieved some of the very important objectives involved. In my judgment, and there might be disagreement—the more important objectives are getting the decisions in the right place and equating those equipment purchases with operations of the industrial activities. You would have the same amount and presumably the same equipment, but you would lose a number of the advantages of the program that we are proposing now.

So it wouldn't have accomplished all of the objectives and in my judgment, the most important objective. We would only get the right amount of equipment. We would still be missing some of the other major advantages.

Mr. **Edwards**. Under the traditional method of providing equipment funding in the procurement account, the investigators report that certain equipment was overhauled in an industrial fund because of a shortage of available procurement funds. For example, this situation was noted at the Norfolk Naval Shipyard where four portal cranes were being overhauled at a cost of $20 million when four cranes could have been procured for a total of $12 million.

Although it is granted that the new Asset Capitalization Program would prohibit repeated instances of what appears to be terrible management of resources, even under the old system, why did the Navy not prepare a reprogramming to transfer $12 million from the O&M accounts to the other procurement accounts and give a credit of $12 million to the O&M account from the industrial fund to prevent wasting $8 million while getting brand new cranes?

Admiral **Miller**. I would like to answer that one, if I may, Mr. Edwards.

The cranes at Norfolk are very old, very difficult to maintain, but they are electromechanical cranes that were originally designed exactly for the precision that is required for the operation at the shipyard. As you recall, having seen it, they are mobile cranes that go up and down along the side of the piers, and when we bring the ship in alongside, it is necessary these cranes have the ability to operate with a great deal of precision.

That is, they have to put gun mounts onto their rails and onto their operating spaces and so forth. A crane has to have the ability to move barely fractions of inches, 80 tons at a time. That is the feature of the electromechanical crane. The new, more modern cranes—the ones spoken of here are principally hydraulic. They don't have the same ability for the precision movement.

So we really have not been able to certify those new cranes to do that specific job. We have a process ongoing at the time to try to do that; and to the extent we can, we would like very much to replace those cranes. Until we are able to find that capability we are going to——

Mr. **Edwards**. Your answer is, you just could not find a new crane to do the job?

Admiral **Miller**. In this particular instance; yes, sir.

Mr. **Edwards**. Go back to my question: Do you still have the ability or the machinery to make the kinds of transfers that I was inquiring about had you, in fact, found $12 million worth of new cranes?

Admiral **Miller**. In that particular case, there would possibly have been two ways to do it. One, we could have done it with procurement funds or we could have taken O&M funds out of another portion of the Navy and reprogrammed them into procurement funds.

That would have been possible. However, we did not have them budgeted that way, so that would have made a major perturbation in the program.

To do it with procurement funds would have been mechanically very difficult because the industrial funds are done on the basis of annual payments to the contractor based on the revenues collected for that year, whereas if we went to procurement funds, it would have to be a fully funded procurement and we would have had to have the whole $12 million up front in one year.

So that would have made it difficult to reprogram money of that magnitude without having customer rates adjusted to put that all out in one year for that procurement.

Mr. **Edwards**. Do you simply find yourself once in a while in a Catch-22 situation where perhaps you realize that there is a way to save the money, but mechanically or because of Congressional restrictions or because of other in-house mechanical problems, you simply cannot pull it off?

Mr. **Dube**. That would be the case in a situation like this. If we took the relationships that are here—not this instance, but in such a situation if somebody had a choice of doing it that way—under our current rules, he is authorized to spend money in the industrial fund to repair but not to make the buy.

Now the thing is if he spends that money to repair, okay, that is going to be reflected in his operating statistics but will not really be recovered from customers until the next fiscal year; and, therefore, it is not in his rates so there's no O&M customer who is going to be sitting, in this example, with $12 million that is not needed.

Mr. **Edwards**. This just popped into my fertile brain all of a sudden. Is there any such thing in the Pentagon as a Catch-22 kind of an office where you literally could go and say to somebody in authority, look, this is the craziest thing in the world, but if we could just do this, we could save $20 million, but we are caught by this reg and that congressional edict and one thing or another; give me a waiver or give me relief and let me save the country $20 million.

Is there such an agency in the Pentagon that can do that without tons of red tape?

Mr. **Dube**. Frankly, every one of us is responsible for doing that. We don't always succeed at it. In that kind of situation, within the limits that are there, I don't think we can really defend letting our own rules and regulations keep us from doing that.

I would not try to defend that now. There are times where some legal restrictions would keep you from doing it in a timely enough fashion and perhaps that may be a justifiable excuse of some kind. I don't see that our own system would be. It is a fact of life that the development and processing of a reprogramming request for reasons that are not always totally clear is a long and time consuming process within our building.

Sometimes it amazes me the amount of time and difficulty that is involved in getting one of those pieces of paper to you.

Mr. **Edwards**. The answer is, there is no office?

Mr. **Dube**. No single office.

Mr. **Edwards**. I wasn't clear on whether you thought there ought to be? Assume you keep it to less than 500 people.

[Laughter.]

Mr. **Dube**. That would probably be the first problem.

Mr. **Edwards**. Thank you, Mr. Chairman.

Admiral **Miller**. Mr. Edwards, one more comment. Certainly at varying levels in the organization of the Department of Defense, waiver authority for certain regulations resides with the Secretary of the Navy or with the Secretary of Defense; and when the occasion arises where we do run into situations like that where it would be in the best interests of the service—and it can be anything; it could almost be a personnel matter—we can go forward and say now it would be a good idea to waive a regulation and here are all the reasons.

If that particular individual has that authority, he can get us out of that Catch-22 or bump it up to the next higher level.

Mr. **Edwards**. Where it will rattle around for three years. Then you change leaders and you start over again.

Mr. **Dube**. As a final point on that, when we spot ground rules that create the potential for those anomalies, it may be a good idea to fix them before that problem occurs. In this case what we are trying to do it put the repair and purchase authority in the same place and that is bound to have some positive impact in terms of avoiding that kind of situation.

Mr. **Addabbo**. If the order came from DOD to the services, the services go to the Armed Services Committee, and they let them do it the way we want; they protect them.

T-5 AMENDMENT

Mr. **Edwards**. Mr. Chairman, I do have one more question, please.

There was an interesting little amendment that popped into the armed services debate this week. It was one of those situations where nobody was on the floor and it zoomed through. Mr. Aspin offered an amendment to restrict the propulsion system on the T-5 to American manufacturers. Is that going to create any problems on going forward with the T-5 program?

Admiral **Miller**. I will answer that to the best of my ability. Then I will get you more detail for the record.

At first indication, we would say yes, that is providing us with a considerable problem in terms of bringing the contract in for the price that we originally estimated.

Mr. **Edwards**. The problem is with the price, you say?

Admiral **Miller**. I believe so, yes sir. In other words, we don't think we have—without the foreign competition, I don't think we can get it for the price we originally estimated.

Mr. **Edwards**. It was my understanding—and I am no expert on this subject—that there was no American manufacturer, that actually makes the type of system that was necessary for that type ship.

Admiral **Miller**. That is right. We would have to make some adjustments to the design in order to accommodate another engine. All of this would cause the price to go up.

Mr. **Edwards**. Okay.

Admiral **Miller**. As I say, I would be happy to provide you a little more detail for the record.

Mr. **Edwards**. I would like to find out more about that.

Thank you, Mr. Chairman.

[The information follows:]

Mr. Aspin's "Buy American" amendment could possibly result in sole source treatment to one competitor or significantly delay and increase the cost of the program.

The increased capitalized cost per vessel of purchasing U.S. rather than foreign built engines is in excess of $[illegible] million, all other factors being equal. Also, additional costs would be incurred due to delays in ship construction resulting from both the need to re-engineer the vessels and the additional engine procurement lead time; these delays potentially exceed a year. Additionally, the U.S.-built medium speed diesel engines consume more and higher priced fuel than the foreign slow speed diesel engines. The cost increases would increase the charter hire payments to be made by Navy by at least $1.2 million per ship per year or about $120 million over the duration of the program.

The T-5 program, a one time five ship program scheduled to start immediately, is neither of the size nor the time frame which would encourage the investment in new engine technology. The Navy's oiler (TAO) program, a multi-ship, multi-year program to provide ships which can do along-side refueling at sea is providing engine manufacturers the incentive to make the necessary investment in their propulsion systems to once again become competitive.

In the T-5 program, offerors presently have full encouragement to offer ships which will have the lowest life cycle costs, enabling them to give the Navy the lowest cost charter rates; propulsion costs—both initial costs and efficiency—are major factors.

To revise the program and make U.S. propulsion mandatory would force the Navy into a wasteful contract. If Congress mandates the use of domestic propulsion, the program will be terminated. This would result in the loss of jobs throughout the United States both in the shipyards and industries which directly and indirectly support the shipbuilding industry.

CONFUSION SURROUNDING BUDGET ESTIMATES

Mr. **Addabbo**. The Committee briefly discussed the topic of today's special hearing on March 17th with Dr. Borsting who is the Comptroller of the Department of Defense. When the Committee requested that Dr. Borsting provide for the record the exact amount of funding included in the fiscal year 1983 budget, we were given some estimates with the caveat that "this information is not readily available."

When the Committee also inquired as to reports that some of the services had included the depreciation charges as lump-sum amounts in their budget request, the response indicated that "some confusion in the final stages of the budget formulation process resulted in the Marine Corps excluding, rather than including, the recovery of applicable depreciation charges in their fiscal year 1983 industrial fund rates."

If the Department does not know precisely what the budgetary impact of this change is in this appropriations bill, and if by your own admission there was confusion in preparation of this budget, what confidence can the Congress have that these complex changes you are proposing are not only well thought out but will accomplish what you intend to be accomplished?

Mr. **Dube**. There are two parts to that. Let me mention the appropriations impact. We had understood the request for that information about the appropriations spread to be a request for that information on an appropriations basis. We were trying to convey there that we needed to estimate that because the depreciation charges are part of the rates that were passed on and we were estimating the portion of the rate that related to the specific appropriation spread.

We know the aggregate amounts. The spread of that by appropriation and segregating just the equipment piece of the rates is what created that difficulty in that respect. We had the ability to estimate that, but not the detail in an accurate way.

With respect to the Marine Corps, there was confusion. We apparently didn't communicate at some point.

Admiral **Miller**. I could comment on that. When we put the budget together originally, the Marine Corps submitted their budget with their capitalization outlay piece at about $2.7 million as a separate item. It wasn't until we had a chance to scrub through the budget that we discovered that that had happened.

By that time, the budget had gone pretty far along and was too late for us to go back in and try to spread it completely among all of the various customers that were going to have to have their rates increased.

So for the Marine Corps, we left that small amount as a single item. This year it will be a straight pass-through. Next year we will be incorporating it into the rates.

The Navy, on the other hand, has put the requirement for those outlays directly in the rates in 1983; that is $90 million, approximately. That is in the rates to finance this. That is the way the system should have worked. It did not work exactly right that first time.

Mr. **Addabbo**. What was the self-described "confusion in the final stages of the budget formulation process"?

Admiral **Miller**. That is the item I just explained to you.

Mr. **Addabbo**. That is the only item there was confusion on?

Admiral **Miller**. That is the one I believe the S&I staff was addressing, sir.

Mr. **Dube**. Clearly that is not the only item on which there was confusion in the budget.

RATES DO NOT REFLECT DEPRECIATION

Mr. **Addabbo**. When Dr. Borsting, the Defense Comptroller, testified earlier this year before the Committee, he stated that "industrial fund rates for 1983 include an estimate of the depreciation on a straight line basis." In response to Mr. Robinson's question that the "methodology that you are following does reflect the true depreciation cost," Dr. Borsting responded, "Yes, they are reflected in 1983 in the charges of the industrial fund to the customers."

However, in response to questions from our Investigative Staff, representatives of the Navy Materiel Command and the Marine Corps both indicated that the amounts included in the customer accounts are simply transfers of what were originally the procurement appropriation requests and do not reflect depreciation charges because they had not been determined at that time.

How can Dr. Borsting testify on March 17th that the rates reflect "the true depreciation cost" at about the same time that the Department of Navy representatives are telling our investigators that the rates cannot have reflected the true depreciation cost because they did not in fact know what the depreciation rates would be since they had not done the calculations?

Mr. **Dube**. First I want to say, Dr. Borsting was relaying the information that I had given to him that we had included depreciation in the rates. That is a generally true statement. It does not cover the Marine Corps because of that anomaly this year in that area that occurred which we just discussed; but in the other instances, it does.

I have a little difficulty understanding the statements attributed to the Navy because my office participated in the development of those numbers. They were estimates—adjusted in my office based upon certain considerations. I can't respond to that.

Admiral **Miller**. I think I can clear up that point, Mr. Chairman.

When we first started this operation, we used the—as a target—amount of money we previously planned to put into the procurement account as a target. It so happens that our depreciation for this coming year has been estimated at $100 million, so we originally put in a figure of approximately $100 million.

This was again very close to what we planned to put into the procurement accounts. However, once that was taken and put into the budget, we submitted this to Mr. Dube's office. We then sat down with him and there was an adjustment made to the actual outlay that we would be given based on a more precise look at the depreciation.

So in that sense we did end up with the depreciation making the final decision even though we started out by using the procurement amount as the target.

Mr. **Addabbo**. At one Navy activity, our investigators were told that "We haven't developed depreciation charges for our equipment yet; we only started looking at it three days ago." This was after the fiscal year 1983 budget was submitted. Since many of the almost 8,000 items of equipment at this activity will have to have fair market values established before depreciation charges can be estimated, isn't it doubtful that many activities will have accurate depreciation calculated before fiscal year 1983 actually begins, let alone in time to have included it in the fiscal year 1983 budget request in February?

Admiral **Miller**. Mr. Chairman, what the S&I investigator and the individual at this command were talking about was as indicated here, the fair market value pertaining to the equipments. We have our equipments being depreciated. Some of them have been completely depreciated down to scrap value.

Under this system, we are now going to reassign new value to those equipments at a fair market rate and then depreciate them again. In this case, of the 8,000 there is a subset of some number—and I don't know exactly the amount, but certainly much less than 8,000—that were fully depreciated and do have to have a new market value assigned. That's the category of items that we were talking about.

We have been doing this. It is a much smaller problem than would be indicated with a number like this.

Mr. **Dube**. Mr. Chairman, to make sure that we are clear between the relationship how we estimated depreciation for the purpose of putting the budget together versus how it will be accounted for and billed in the actual operation, we had data from the services based on aggregated estimates coming out of their systems of the remaining book value of the equipment and estimates we used of what the useful life on a highly aggregated basis would be.

We used those estimates for arriving at the estimated depreciation that needed to be recovered in rates.

Irrespective of how accurate we may or may not have been in that—and we have gotten some indications that some of the data is really good, some is not—the amount to be recorded on the books as depreciation beginning October 1st, if we have the approval of the committees, would be based on individual activity level computations of the depreciation. So we made some estimates of the depreciation based on summary data available to us.

The actual charges, the actual amount to be reflected at the industrial activities will be based on each individual activity's look at its individual pieces of equipment.

Mr. **Addabbo**. The 1983 budget was put together in November or December of 1981. We are now in July, nearing the end of the 1982 fiscal year and rapidly approaching 1983. Have you been able to reassess the depreciation figure and are you able to give us a better figure or more accurate figure as far as depreciation is concerned as to how soon that will be achieved?

Mr. **Dube**. I would like to ask Colonel Metcalf to speak to that. The Air Force recently completed that effort.

Colonel **Metcalf**. We looked, Mr. Chairman, at the initial go-through, and took an average age of all of the property of an average 12 years, which came out in the S&I report. They made comment of that.

We found that then having made that first pass, we went back and reviewed all items of new equipment for useful life and assigned what was not an average but a more likely useful life. We found out it did not materially change the depreciation we were anticipating.

A lot of factors go into the useful life other than just pure age. One would expect maybe you could make just a pure cut and dried assessment, but the condition of the equipment, the type of usage—whether it is heavy industrial equipment, stamping machines, milling machines versus equipment used on avionics, for instance, that has a very short high technology—very expensive—but yet very short life.

We found that our assessment of a 12-year average was not all that bad. However, we have not made the change and gone back to a more precise, useful life.

Mr. **Addabbo**. Has that been the case with you, Admiral?

Admiral **Miller**. I would say we submitted the budget, last year, for 1983. In the last few weeks, we received our budget inputs from the field for the 1984 budget and part of that submission is a recalculation of 1983, for the 1983 column of the 1984 budget.

Without my office having a chance to scrub it all, the industrial facilities have come in with depreciation at about $130 million. We originally estimated it at about $100 million.

Mr. **Thornett**. If I could add for the Army, our estimates were derived from the ground up, the activities themselves made the estimate of the capital equipment purchases and the depreciation; and it has been under review since then. We will continue to review it. Right now we feel the estimates are accurate.

DELEGATION OF PROCUREMENT AUTHORITY

Mr. **Addabbo**. Earlier when we were discussing oversight and the question of duplication, you mentioned you will be careful to make sure there is no duplication.

The proposals in the military services would provide for a wide variety of equipment replacement approval authorities to the depot or plant manager level. For each of the services the plant manager could purchase, without approval of higher authorities, equipment up $300,000 apiece in the Navy, up to $100,000 in the Air Force, up to $50,000 in the Army, and only $25,000 in the Marine Corps.

Why is the variation so great across the services in terms of delegation of procurement authority?

Mr. **Dube**. The ranges are reflective of a number of differences including the magnitude of the operations involved and the number and scope of activities involved.

For example, if you look in terms of the Marine Corps versus the Navy, in terms of their facilities, the impact of a $25,000 equipment purchase on Marine Corps operations is rather significant compared to $300,000 in the Navy industrial fund complex with the shipyards and reworking facilities and so forth.

These are keyed in part, to the management objectives and situations of the individual services and the scope and magnitude of the work performed at those activities.

Admiral **Miller**. I would like to comment that the reference to the plant management having that authority in the Navy is not quite correct. The activity group commander has that authority in the Navy. The shipyards are an activity group, the NARFs are an activity group, but the individual shipyard management doesn't have that authority.

It is anticipated that that $300,000 capability will be at the activity group level. There would be some lesser authority down at the shipyard commander or the NARF commander.

Mr. **Addabbo**. Has this delegation always been in place or is this a new one under the new procedure?

Mr. **Dube**. When you say "This delegation," we really haven't had the ability to delegate that authority before under this. We had to fit those within the appropriate procurement budgets and so forth, if that is what you mean.

Admiral **Miller**. A parallel to this would be our fast payback program that we had in operation before, which was very similar to this. We had the same idea. The higher cost items had to be approved at a very high level and they worked their way down.

In that case, our shipyard commanders had authority to approve $25,000 on their own signature stating that they have ascertained that the three year payback is available and they could take that particular action.

The higher cost items had to be approved at the group level again. So it is the same idea.

Mr. **Addabbo**. This is a large delegation of power, $300,000; $25,000 might be minimal. Again, as compared to the total budget, it becomes relatively large.

Supply for the record the total dollars that each of the services, plant manager, whoever, who has the control of the decision over these $300,000, $100,000, et cetera; how much was spent in 1982; and if you have the figures, do it up until June 30, 1982. Provide them for 1981 also.

[The information follows:]

Currently most equipment purchases are funded in the procurement appropriations. Our Industrial Fund managers do not have responsibility for fiscal oversight relative to procurement funds. The fiscal responsibility of Industrial Fund managers encompasses the costs of operating our Industrial Fund activities. These activities incurred costs in excess of $18 billion in fiscal year 1981 and are projected to incur costs in excess of $20 billion and $21 billion in fiscal year 1982 and fiscal year 1983, respectively.

The following table shows the average costs incurred in fiscal year 1981 and projected average costs for fiscal year 1982 and fiscal year 1983 by type; of activity. It also shows the upper limit (in terms of dollars) that activity managers will be permitted to obligate for an individual piece of equipment without the approval of higher commands.

	Average cost of operations administered by individual industrial fund activity managers			Individual activity equipment purchase threshold (thousands)
	Fiscal year 1981	Fiscal year 1982	Fiscal year 1983	
Army industrial fund:				
Armament Command	55	65	71	[1] 50
Depot activities	73	85	101	[2] 50
Missile Command	338	364	400	[3] 200
Military Traffic Management Command	169	196	203	(4)
R. & D. activities	75	73	73	[5] 50
Navy industrial fund:				
Aircraft reworks facilities	210	226	257	[6] 300
Military Sealift Command	1,711	1,837	2,056	[6] 300
Ordnance activities	103	115	121	[6] 300
Printings	151	153	158	[6] 300
Public work centers	93	107	111	[6] 300
R. & D. activities	190	207	221	[6] 300
Shipyards	359	381	466	[6] 300
Marine Corps industrial fund:	33	35	41	[7] 300
Air Force industrial fund:				
Depot maintenance	337	381	441	[8] 100
Real property maintenance	128	139	150	[8] 100
Laundry/dry cleaning	4	5	5	[8] 100

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[1] U.S. Army Armament Material Readiness Command may approve equipment purchases costing up to $200,000 and U.S. Army Materiel Development and Readiness Command (DARCOM) will have approval on items over $200,000.

[2] U.S. Army Depot Systems Command (DESCOM) may approve equipment purchases costing up to $200,000 and DARCOM will have approval on items over $200,000.

[3] U.S. Army Missile Command (MICOM) has no individual activity installations. Items over $200,000 will be approved by DARCOM.

[4] Military Traffic Management Command (MTMC) HQ's will approve equipment purchases over $5,000. Eastern and western areas will be given authority to approve items under $5,000.

[5] The 5 laboratories included may approve equipment purchases costing up to $50,000. U.S. Army Armament Development Command (ARRADCOM) will approve equipment purchases costing up to $200,000. DARCOM will approve items over $200,000.

[6] Purchases of equipment costing in excess of $300,000 but not more than $1,000,000 will require approval of the applicable activity group manager (Naval Air Systems Command, Naval Sea Systems Command, Naval Facilities Command or Chief of Naval Material Command). Purchases in excess of $1,000,000 will require approval of the Comptroller of the Navy.

[7] Purchases of equipment costing in excess of $300,000 but not more than $1,000,000 will require approval of Headquarters Marine Corps. Purchases in excess of $1,000,000 will require approval by Comptroller of the Navy.

[8] Industrial fund managers will be delegated authority to approve equipment purchases costing up to $100,000. Purchases costing in excess of $100,000 will require approval by Headquarters, Air Force Logistics Center.

Mr. Addabbo. The gentleman from Alabama, Mr. Edwards?

INCLUSION OF ACTIVITIES IN THE INDUSTRIAL FUND

Mr. Edwards. In fiscal year 1981, DOD operated 85 activities under the industrial fund concept, including 22 in the Army; 50 in the Navy; 9 in the Air Force; 2 in the Marine Corps; and 2 under OSD. Our investigative staff found significant inconsistencies as to which activities of the same type are authorized to operate with industrial funds and which are not.

How does DOD go about deciding whether an activity is to operate as an industrial fund?

Mr. Dube. In order to operate as an industrial fund, an activity has to meet certain criteria that are laid out in directives that are published. Those criteria deal with the nature of the operations and so forth.

However, those directives are permissive in the sense that an activity must meet those criteria in order to be industrially funded, but there are activities that could meet those criteria that we do not fund on this basis.

It is a function primarily of how that particular activity fits into the operating context, the requirements, and whether there is an advantage to operating funds under the industrial basis for that activity. The services may differ in terms of the particular arrangement that exists in a particular area, so similar activities may not be financed in precisely the same way.

Mr. **Edwards**. Permissive at what level? Who decides? We are told some Army R&D laboratories operate under the fund and others don't. Who makes that decision? The guy who operates the laboratory? Who?

Mr. **Dube**. Actually, the decision to incorporate under the industrial fund charter has to be made at the Office of the Secretary of Defense level. Within the services, the decision is usually made whether or not to request inclusion as an industrial fund activity and then submitted to the Office of the Secretary of Defense.

I am not sure—I would suspect in differing instances the considerations associated with the decision as to whether or not to seek inclusion in the industrial fund would differ depending on the individual circumstances.

Admiral **Miller**. There is a set criteria in the Navy that we use to determine whether it is appropriate to ask to be included. For example, we just examined the facility at Bangor to see whether that should be put into the industrial fund. One of the criteria is, does this particular activity handle more than one customer; it doesn't make a lot of sense to have an industrial fund if he is going to deal with only one customer.

So we turned down Bangor on that basis. All the money is at CINCPACFLT. You wouldn't have any other customer.

Mr. **Edwards**. I guess this would not have been a problem in the past, but under the new policy, I guess it is fair to ask whether these inconsistencies would recreate some kind of a problem in the pricing structure.

Customers obtaining services in an industrial fund activity would be required to pay a higher price because of the inclusion of equipment charges, whereas the customers who obtain the same service from an activity not industrially funded would not be charged for equipment depreciation. Is that correct?

Mr. **Dube**. That's right. The only point I would make is the difference that currently exists before we implement this policy between the cost to a customer from ordering an identical service from an industrial versus non-industrial activity is fairly significant because of the differences in the industrial fund ground rules. I am not sure this difference would be as significant as other differences that already exist.

While it would add to what is in the industrial fund charges, there is already a fairly significant difference.

Mr. **Edwards**. Is it fair to say that those of you sitting at the table there are not unhappy with this state of affairs that some are in and some are not in and that you have got to establish criteria and you either meet the criteria or you don't? This laboratory is in, this one is not, this shipyard is in, this one is not.

Those don't give any of you heartburn?

Mr. **Thornett**. Let me say something on behalf of the Army, Mr. Edwards.

The R&D labs that are now industrially funded are carryovers in most cases from arsenals. We are talking about the Army Materials and Mechanics Research Center in Watertown, Massachusetts and the Armaments R&D Command at Dover, New Jersey, which were previously arsenals that operated under the industrial funds.

They continued that. Of course, there would be some cost to convert to another system. The Harry Diamond Laboratory, which is now in White Oak, Maryland, used to be co-located as part of the National Bureau of Standards up on Connecticut Avenue until 1953 when Harry Diamond Lab broke off from the NBS.

The National Bureau of Standards at that time operated under a revolving account similar to our industrial funds. Harry Diamond Lab kept that industrial accounting system.

Right now our Army Material Development and Readiness Command, DARCOM, is looking into the R&D labs to determine whether we are happy with that kind of arrangement. I am not sure when that study will be completed, but General McCall, the Comptroller of DARCOM is here, and he might want to add to that.

General **McCall**. Mr. Edwards, it is at my level where the reporting and the information from R&D laboratories in and outside of the industrial fund must be correlated and compared. It presents no real problem. You have to make some complicated crosswalks, and it does present to the staff's difficulties in displaying data, but there is no practical problem in the comparison of work to be performed in and out.

You do have a better ability in knowing the cost of doing business within the industrial fund. By and large those R&D lab directors who are in, desire to stay in. We are, however, looking at it.

Mr. **Edwards**. It sounds like a system that sort of "growed like topsy." You are in or not in based upon what you did and how you were brought along over the years. I am sure that's not an absolute case, but that's kind of what it sounded like you just described to me.

The old arsenals were in or out; now they are in or out depending upon what they used to be. It seems to me, as sort of an outsider looking in, that it is not very uniform.

Mr. **Dube**. There is much to what you say in terms of where we are right now. It is as a product of our history, how they got there, and the evolution is such that that occurs and is a major factor in why we have the particular configuration we have.

In trying to answer your question, do these inconsistencies give us any heartburn; in one sense yes because those inconsistencies are always hard to deal with and hard to explain. They make almost any problem just a little bit bigger because there is that much more complexity to the thing. That is a drawback in doing business.

Frankly, in most cases, the drawbacks in those inconsistencies aren't as great as the drawbacks attendant to imposing a uniform system or nomenclature on a set of operations and organizations that, in fact, are not uniform.

Many differences exist between the individual laboratories within a service or among the services in various functions. There are a lot of similarities, but there are enough differences that time and time again we find we can't achieve the kind of uniformity that would make it a little easier for us to effectively describe our operations. I am not sure that the payoff would be as great as some of the penalties that would come from using it.

Mr. **Edwards**. I will give the Air Force and Navy a chance to comment. But before you do, I was just looking at the S&I report where it refers, on page 10, to the Navy and the Air Force. I will just read a couple of sentences.

"A similar unusual situation existed in the Air Force where laundry and dry cleaning services are industrially funded. This is not true in the other three services. The Navy's Publication and Printing Service is another example. In the Navy, the operation is industrially funded. However, in the other three services, similar operations are not."

I don't know. I am sure that you guys know exactly what you are doing, but as I sit over here and try to figure it out—especially the right way to do the things—it just doesn't seem to me to make sense.

Mr. **Dube**. I am glad you asked that. I think we can take those two examples. What is an apparent anomaly has its roots in a situation. Do you want to speak to the dry cleaning situation?

Colonel **Metcalf**. Mr. Edwards, talking to the laundries that you spoke of, we are working very diligently to get out of the laundry business, if you will. It turns out that there are locations where there are no alternatives. Oddly enough, several years ago, one of the industrial fund laundries was at Nellis Air Force Base outside of Las Vegas. It turned out that in that city, all the hotels, large drivers for a laundry and dry cleaning business, leased their sheets, bedding, and linens. So they would go back to the lease company, perhaps in Los Angeles or wherever they were situated.

Right now we have four laundries left in the continental United States and five overseas—six years ago there were seven here in the United States and nine overseas. We have been working hard to get away from that situation.

It just turns out that there is no alternative. So we are not in competition with anybody at that particular location.

There is now a suitable alternative. We have recently instituted an industrial fund—I say recently, several years ago—in the San Antonio property maintenance area. It is inter-Service, geographically limited, and it covers the whole aspect of the military activities in that particular area with a commonality of service so it is ideal for the mechanism of an industrial fund.

Again, delimited by geography, so there is no competition with other non-industrially funded activities in the immediate area.

Mr. **Edwards**. Admiral, do you want to comment?

Admiral **Miller**. The one you mentioned is the printing service. It is unique. We only have the one. It was one of the first activities that was put into the Navy industrial fund when the Navy industrial fund was formed. We think it lends itself very well to industrialization since the types of things that are done at the printing office are industrial.

Also in the Navy, the way we do our printing is the customers are responsible for the financing of their printing and, therefore, we have a large customer base for that organization that is doing the printing. It centralizes the printing in one place.

He has a lot of customers. In a situation like that, that is particularly good for industrial funding, so you can achieve the benefits of scale where you have lots of individual people getting a small job done. So, therefore, we think that the printing office is a very fine industrial activity for us.

Mr. **Edwards**. Thank you, Mr. Chairman.

AIR FORCE DEPOT MAINTENANCE CONTRACTS

Mr. **Addabbo**. Mr. Secretary, the Investigative Staff reported that OSD denied that the planned increase in profit in the industrial fund is related to the Asset Capitalization Program and explained that it was necessary for a number of reasons. With regard to the projected $236 million profit estimated for the Air Force in Fiscal Year 1983, apparently it was intended to be used to offset a significant decrease in cash anticipated as a result of removing contract depot maintenance from the Air Force industrial fund in fiscal year 1983.

If the committee provides the legal authority for the Air Force to operate as it has historically, it has already been established in other hearings that a reduction of $350 million in the Air Force O&M account could be made with no adverse impact.

Does the Air Force agree with this statement?

Colonel **Metcalf**. Mr. Chairman, the language as you just read it needs some clarification. When you say "To operate as it has historically," if the Air Force were permitted to contract depot maintenance through the industrial fund—the contractor operates that through depot maintenance—and legal authority existed to utilize customer orders as we have in the past, as a budgetary resource, the reduction of $350 million could be made with no adverse effect.

There is an area of concern about the use of the anticipated customer orders and if that is not the case, that we just move the contract maintenance back into the depot maintenance industrial fund, we would therefore have to buy out the 1984 portion of the contracts initiated in 1983. We would have to retain $160 million of the $350 million for that purpose.

Mr. **Addabbo**. If the Air Force is generating a substantial profit in the industrial fund as a result of this shift for contract depot maintenance, in addition to the $350 million reduction, could an additional reduction of $236 million be made against the O&M accounts by providing credits in the industrial fund in that amount?

Colonel **Metcalf**. Mr. Chairman, the generation of the profits is unrelated to the shift of the contract depot maintenance out of the industrial fund. It was a forecast based on several assumptions of productivity and other matters.

Our latest forecast of the profitability for 1983 based upon what we are seeing in 1982 to date and projecting and extrapolating those figures into 1983 would bring the $236 million figure much closer to $100 million.

Additionally, the Air Force cash position at the end of 1983, looking at that, using that profit of $100 million, is anticipated to be $199 million. That equates to just about eight working days in the fund of capitalization, operating cash.

We feel that is a very minimum. We feel that really we should have something in the neighborhood of 13 days' operating cash. That would place us in a deficit of about $80, $90 million in cash.

So, what appears to be a substantial profit is much less than the $236 million and we in the Air Force feel that we must retain that as operating cash.

Mr. **Addabbo**. But there is substantial or otherwise profit to be derived?

Colonel **Metcalf**. Yes, sir. There is $100 million of profit.

Mr. **Addabbo**. Mr. Secretary, the S&I report concluded that modernization of our DOD industrial equipment is probably a good idea. The only problem they felt was that DOD does not have its act altogether to implement this proposal in Fiscal Year 1983. I am hoping you will ride herd and get the guidelines in place so we can judge whether it is working and you can judge it better also.

We have several other questions which we will place in the record for your complete answers.

[**Clerk's note**: Questions submitted by Mr. Addabbo and the answers thereto follow:]

DETERMINATION OF USEFUL LIFE

Question. The determination of an appreciation charge is critically dependent upon calculating the useful life of the equipment. However, there are several different methods in use in the Department of Defense. In the Air Force alone, for example, industrial financial accounting requires the use of internal revenue service useful life tables for depreciation while Air Force industrial fund equipment managers use the useful life tables contained in a DLA manual. The Army, on the other hand, uses technical bulletins, technical manuals, and manufacturers' data to determine useful life. These differences are highlighted by the fact that the Army depreciates the cost of a $100,000 lathe over 20 years, the Navy over 25 years, and the Air Force over 12 years resulting in an annual depreciation charge ranging from $4,000 for the Navy to a high of $8,333 for the Air Force.

Why should depreciation charges be permitted to range so greatly for identical equipment?

Answer. Depreciation charges are a way of recovering initial acquisition costs over the estimated useful life of a piece of equipment. Identical pieces of equipment may be used in different environments, for different purposes, at various rates of operation. In such instances the useful life of identical equipment could be significantly different. In the specific case of the lathes discussed above, the useful lives used by the Services were developed by the Services to satisfy current procedures involving the depreciation of equipment primarily for statistical purposes only. Under the current procedure the reasonableness of estimates in the aggregate is considered sufficient in many instances. The impact of imprecisions in estimating the usefulness of any particular piece of equipment is usually not significant. The capitalization initiative proposed by the Department, however, requires that more accurate estimates of useful life be made for individual pieces of equipment rather than for all equipment in the aggregate. Consistent with our initiative the Services are reviewing current useful life estimates of their equipment to better assure that such estimates reflect anticipated useful life by equipment rather than merely an overall aggregate average.

Question. Has the Department decided upon a single methodology to use for the calculation of depreciation DoD wide?

Answer. The initiative proposed by the Department requires the Services to depreciate equipment on a straight-line basis over the estimated useful life of the equipment. Because similar pieces of equipment used at different rates of operation in different environments can be anticipated to have different useful lives, the Department has not specified a single useful life for any particular equipment. The Services can be anticipated to generally establish useful life estimates consistent with available tables developed by the private sector and the government for various classes of equipment.

IDENTIFICATION OF FISCAL YEAR 1983 EQUIPMENT PURCHASES

Question. It would seem that the Department of Defense activities would have prepared your normal lists of the industrial plant equipment to be purchased in the fiscal year 1983 procurement accounts because the decision was not made until relatively late in the process to switch the funding to the customer account.

Are there lists available for 1983 which the Committee could review?

Answer. Many of the items of equipment utilized at our Industrial Fund activities are similar to items of equipment utilized by other (non Industrial Fund) DoD activities. The Department's budget process does not separately identify the purchase of such equipment in the procurement appropriations as to whether the purchase is for Industrial Fund activities in many instances. Therefore, a separate list of equipment for Industrial Fund activities which might have been purchased with procurement appropriation funds, if the capitalization initiative had not been proposed by the Department, is not available. Attached for the Committee's information is a representative list of equipment being considered for purchase of Industrial Funds as part of the Department's proposed capitalization initiative.

[The information follows:]

ARMY

ARRCOM

- Hydraulic Press
- Drill Press
- Noise Abatement Equipment
- Grinders
- Cleaning Machines
- Bore Measuring Systems
- Hoist
- Milling Machine
- Fluoroscope Machine
- Engine Lathe
- Belt Conveyor
- Lathes
- Gun Mount Clamping System
- Boring Machines
- Cranes

DESCOM

- Conveyors
- Heat Treat Furnace
- Drilling Machines
- Bridge Cranes
- Generator
- Compressor
- Drying Booths
- Milling Machines
- Lathes
- Forklift
- Brake Machine

ARMY—Continued

MICOM

Welder
Computer Equipment
Oscilloscope
Distillation System
Optical Channel
Analyzers
Generator
Spectrophotometer
Microscope
Copier

R. & D. ACTIVITIES

Laser Cavity
Lathe
Sweep Oscillator
Signal Synthesizer
Rotary Furnace
Threat Level Vertical
  EMP Simulator
Oscilliscope

MTMC

Remote Printers
Electronic Intrusion
  Detection Devices
Crane
Light Level Closed
  Circuit TV

Navy

	Millions
Shipyards:	
Abrasive Blasting System	1.2
Chip Melting System	.6
Asbestos Slurry System	.3
Pure Water Manufacturing System	.3
Electronic Load Test Units	.3
Rotary Pipe Bending Machine	.3
Vertical 3-AXIS Machining Center	.3
Vertical Plate Bending Machine	1.2
NARFS:	
Boring Mill	.3
Numerically Controlled Jig Bore	.7
Horizontal Boring Mill	.6
Vertical Boring/Turning Machine	.6
Data Acquisition System	.6
5-AXIS Machining Center	1.1
Autoclave	2.4
Mobile Neutron Radiography Equip	1.2
Ordnance activities:	
Airless Grit Blast System	.3
Temperature/Humidity Control system	.3
Vertical Grinder	.6
Lathe	.7
R. & D. labs:	
Shock Tester	.2
Ultrasonic/Eddy Current Non-Destructive Eval. System	.2
Vibration System	.2
Scanning Electron Microscope	.2
Gas Analysis Chamber	.2
Megawatt Gyrotron Effects Equipment	.5

Air Force

Aircraft Ground Servicing Equipment, Airfield Specialized Trucks and Trailers (Maintenance platforms, maintenance slings and hoists, jacks, engine covers, trailers for transporting aircraft assemblies)	$1,215.0
Trucks and Truck Tractors, Wheeled Panel, delivery, and pick-up trucks)	1,267.4
Tractors, Wheeled (Tugs)	38.4
Engines, Turbines, and Components (Gas turbine power unit)	35.2
Aircraft Engine Electrical System Components (Engine start test set)	1.9
Woodworking Machinery and Equipment	161.5
Metalworking Machinery (Machining centers, electrolytic grinding machines, drilling and tapping machines, grinding machines, milling machines, machne tools, heat treating equipment)	35,103.9

Air Force—Continued

	Millions
Special Industry Machinery (Blueprint printing and developing machines, liquefied gas storage tanks and dispensing systems, component assembly machinery, molding machines)	$510.1
Road Cleaning and Cleaning Equipment (Sweepers)	140.7
Materials Handling Equipment (Hoists, cranes, fork lifts, materials feeders)	5,400.5
Air Conditioning Equipment (Machine environment)	919.8
Pumps and Compressors (Compressors, vacuum pumps, power and hand pumps)	145.0
Furnaces, Steam Plant and Drying Equipment (Industrial furnaces, kilns, steam boilers, heat exchangers)	2,643.2
Water Purification, Sewage Treatment (Industrial water distillation equipment)	114.0
Maintenance and Repair Shop Equipment (Specialized equipment for aircraft maintenance and repair, fire control maintenance and repair, lubrication and fuel dispensing equipment)	48,329.4
Measuring Tools (Calipers, levels, micrometers, measuring and inspection gages, precision layout tools)	443.5
Scaffolding	3.1
Telemetering Equipment, Sound Recording and Reproduction Equipment (Work-process monitoring equipment)	180.9
Generators, Converters	856.9
Portable Electric and Hand Lighting Equipment	5.3
Opthalmic Instruments, Equipment (Annular polisher for optical tracking and guidance systems maintenance)	134.0
Instruments and Laboratory Equipment (Engine instruments, electric and electronic property measuring equipment, hardness testors, magnifiers, microscopes, mechanical motion measuring instruments, liquid and gas flow tools)	30,938.9
Photographic Equipment (Cameras used in printed circuit card repair)	616.3
General Purpose ADP Equipment (Input/output and storage devices, system configurations)	1,234.6
Office Machines (Embossing equipment, programmable calculator)	161.7
Other (Stock number not yet designated: metalizing machine, portable steam cleaner, blast cleaner, field strength meter, optical projection equipment)	4,648.5
Total (will not add due to rounding)	135,250.1

Question. In the event that the Congress rejects the Asset Capitalization Program in fiscal year 1983 and provides an appropriate level of funding in procurement accounts, some basis for determining the appropriated funding level must be used. For the record, would you please provide a detailed breakout of the equipment and its associated costs that you would request be added in the procurement accounts if the Asset Capitalization Program is rejected?

Answer. As indicated previously the Department does not have available a separate list of equipment to be purchased with appropriated funds (largely procurement appropriations but also RDT&E appropriations in some instances) if the capitalization initiative is not approved by the Congress.

While neither the optimum level of equipment purchases nor the amount of equipment purchases that might have been requested in appropriated funds for the purchase of equipment for DoD's Industrial Funds, the amounts shown below, by appropriation, were removed from appropriations during the program and budget process.

	Millions
Army:	
Weapons and Tracked Combat Vehicle Procurement	$55
Procurement of Ammunition	9
Missile Procurement	2
Other Procurement	5

	Millions
Navy:	
Other Procurement	$100
RDT&E	14
Procurement, Marine Corps	3
Air Force:	
Aircraft Procurement	12
Other Procurement	17

DEPRECIATION VERSUS MODERNIZATION

Question. Under the Asset Capitalization Program (ACP), the cost of capital investment becomes a part of operations of the industrial fund activity and is recovered from the customers through depreciation charges over the useful life of the asset. It would appear that because DoD's outdated plant equipment will require far greater annual expenditures for modernization than will be recovered from the annual depreciation charges, the burden of modernizing these industrial facilities will shift to the customers of the industrial fund who are financed primarily from the O&M appropriations.

While it may be fair to charge the customers a depreciation cost for the amount of the equipment being consumed during the production process, is it reasonable to charge the customer for the modernization effort as well?

Answer. Modernization programs in most instances are anticipated to reduce operating costs through economies and efficiencies. Since customers will receive the benefit of such savings in operations, the Department does not consider it unreasonable to require the customers to share in the initial investment costs necessary to realize the net savings.

In many instances the replacement of an individual piece of equipment involves a degree of modernization due to changes in the state of the art that may have occurred between the time of initial purchase and time of replacement. The Department does not believe it to be feasible to distinguish between replacement and modernization in most circumstances involving individual pieces of equipment.

The capitalization initiative proposed by the Department requires separate identification by the Service and specific approval by the Office of the Secretary of Defense relative to efforts intended to increase either the capacity or capability of an Industrial Fund activity. This identification and approval process will provide DoD an opportunity, on a case by case basis, to identify when modernization efforts would be more appropriately funded by appropriated funds.

Question. If the Congress agrees to permit the depreciation charges to be made against the customer, why shouldn't the modernization effort above and beyond simple depreciation be paid for from the procurement appropriations as a separate program?

Answer. It would not appear feasible to distinguish between replacement and modernization of equipment in many circumstances. On a case by case basis, the Department intends to review separate efforts proposed to increase the capacity or capability of individual Industrial Fund activities. The Department believes that the funding of efforts to increase capacity or capability should be addressed on a case by case basis, rather than by a directed policy requiring all such efforts to be funded from direct appropriations for that purpose. Providing for such equipment purchases for Industrial Funds to be from appropriated funds could, in some instances, forego management improvements anticipated to be realized under the Department's proposed initiatives.

AGE OF DOD INDUSTRIAL EQUIPMENT

Question. The average age of DoD's industrial plant equipment varies from a low of 9.5 years with an average service life of 19 years (Air Force Logistics Command) to a high of 19.1 years with an average service life of 17.3 years (Defense Logistics Agency). With regard to the Army, Navy, and DLA, for which more comprehensive data are available, the combined results indicate an average age of 15 years with an average service life of 14.7 years. This aggregate data, however, could be misleading since averaging the age of turret lathe with a useful life of 17 years with an item or test equipment such as a calorimeter, which has a useful life of only 8 years could produce a result which is mathematically precise but of doubtful utility.

Is knowing the age and average service life of DoD's equipment of practical use?

Answer. The average age and average remaining service life of DoD's equipment is one indicator of the state of DoD's equipment. By itself, however, it is not sufficient information on which to determine a replacement policy or timetable. The aggregation of age and useful life information involving different classes of equipment from different activities tends to significantly diminish the usefulness of such information.

Question. Is there any other quantifiable method of description which could be used to more benefit instead?

Answer. The Department does not have a better quantifiable method of describing the status of its equipment. Many of the variables which help to identify the efficiency and effectiveness of the operations of a piece of equipment can be quantified for an individual piece of equipment. The aggregation of such information to include other pieces of equipment and other classes of equipment renders much of the quantifiable information useless. The Air Force, for example, has an automated system which assists in a quantitative analysis relative to whether equipment should be repaired, renovated, or replaced through the procurement of new equipment. Required information can be quantified and analyzed for an individual piece of equipment, but the technique cannot be applied to total inventories of equipment.

Question. Contrary to the situation found by our investigators at the senior management levels of DoD, each of the individual industrial fund activities know the exact status of its industrial fund equipment. However, because there is no uniform system for determining equipment status in DoD, each uses a different approach. Does this severely limit the ability to draw meaningful comparisons across similar DoD industrial fund activities such as comparing air logistics centers with Naval air rework facilities.

Answer. The problems inherent in the aggregation of equipment inventory information render much of the available information of limited value. The problems of aggregation, rather than the lack of a uniform system, is the more limiting factor relative to our ability to draw more meaningful comparisons among and between Service activities.

Question. The Investigative staff has recommended that any comprehensive equipment profile system implemented in DoD should be based upon the existing Federal Supply Classification System much as implemented by the Defense Industrial Plant Equipment Center. It was also recommended that the system be expanded to include the essential elements of Other Plant Equipment as well. How difficult would it be to develop and field such a system in terms of both dollars required as well as time?

Answer. Comprehensive information on age and condition of industrial plant equipment (IPE) is maintained in a data bank by the Defense Industrial Plant Equipment Center (DIPEC). This, coupled with the existing service life tables, would appear to allow for a comprehensive equipment profile system. While age and condition information for IPE is not routinely reported by DIPEC, it has previously been made available upon request.

The DIPEC is currently developing and testing an automated information system that will permit users to input data to the IPE data bank mechanically; thereby eliminating the current system of hard copy transactions. Once this system is in place, the addition of data for selected Federal Supply Classifications (FSC) of other plant equipment (OPE) to the data bank would require relatively minimal time and expense, since the required data elements are already maintained at the local activity level. It would, however, be necessary to develop service life tables for any OPE included in the equipment profile system. Before exact cost estimates can be given, it must be determined which FSC's are to be added and how many items are in the inventory in each FSC.

Question. Why does the Air Force not provide Industrial Plant Equipment data to the Defense Industrial Plant Equipment Center as do the other services?

Answer. The Air Force provides data to the Defense Industrial Plant Equipment Center (DIPEC). The information provided by the Air Force is not comparable to that of DIPEC's system in all instances. The Air Force is revising its automated system so as to provide DIPEC with information which is more comparable with DIPEC's system.

BENEFITS ANTICIPATED

Question. One of the benefits expected to be realized through the new policy would be increased productivity leading to lower unit costs to the customers. However, according to our Investigative staff DoD has established no annual increased productivity targets to reflect the benefits to be derived from the planned expenditures for industrial fund replacement equipment and it is therefore not possible to determine the tangible savings to result from the new program.

Although it is tempting to assume that procurement of new equipment will improve productivity, is it possible to provide the Committee a meaningful aggregate measure which would tie increased productivity directly to improvements in plant equipment?

Answer. The Department does not have a meaningful measure of productivity in the aggregate. The influence of many different factors associated with the accomplishment of Industrial Fund workloads makes the isolation of productivity associated solely with improvements in plant equipment extremely difficult. To the extent that productivity achievements are measureable in specific instances (in revised standards to accomplish a particular task, for example), the aggregation of such data across several functions and Industrial Fund activities is not feasible.

Question. A DoD official described the Department's ability to measure productivity as "admittedly crude". Have any annual increased productivity targets been established to reflect the benefits expected from the planned expenditures for industrial fund replacement equipment?

Answer. Specific annual productivity targets have not been established to reflect the benefits from improvements in capital equipment. As discussed previously it is not feasible to measure productivity in the aggregate. Nor do we believe the use of productivity targets would necessarily be the most effective manner in which to manage the capital equipment program. The Department will, however, continue to review its programs to assure that reasonable estimates of savings are reflected in instances where such savings should be anticipated.

Question. Have any savings at all as a result of this program been included in the fiscal year 1983 budget?

Answer. The fiscal year 1983 President's budget does not reflect savings specifically related to the Department's Industrial Fund capitalization initiative. Because of procurement lead times much of the equipment to be purchased in fiscal year 1983 under the proposed initiative would not be received and placed in operation until fiscal periods subsequent to fiscal year 1983.

Question. DoD typically implements productivity increases by simply reducing the number of employees to be used for the same workload in the budget request so that savings due to productivity increases will in fact be realized. Is this rather arbitrary but effective method the one that the Department will use to reflect savings in future years?

Answer. Productivity increases may be reflected in the budget request in ways other than reduced numbers of employees. Productivity increases may also be reflected through reduced estimates of costs or through increases in workload without corresponding increases in personnel resources.

Question. It was stated to our investigators that DoD should attain savings as a result of increased productivity at the end of the period of investment in excess of the funds being spent for replacement equipment. Otherwise, what sense would there be in spending the money. Is there any documentation whatsoever in the Department of Defense that would indicate that savings will in fact result and if so in which years?

Answer. The Department anticipates that the capitalization initiative will produce some savings in the operations of Industrial Fund activities in excess of those savings which might otherwise occur. However, we must take issue with any implication that all equipment purchases should be expected to pay back the initial investment through savings. There will be many instances where equipment must be replaced simply because it is worn out. Productivity gains should not be anticipated in those instances. Other equipment may be required in order to allow for the accomplishment of assigned missions. In such instances the realization of productivity savings is not the primary goal.

Decisions leading to the procurement of equipment will be required to be documented. For general equipment purchases this documentation will include an economic analysis and other information (including pay back calculations) sufficient to allow for a post-investment audit to determine savings realized. Such documentation will be related to individual items of equipment. At the current time we have not attempted to document the aggregate amount of savings anticipated. In part future savings in the operations of Industrial Fund activities will depend on the level of investment, the timing of equipment deliveries, and the workload. Much of this information has not been forecasted at this time.

Question. The investigative report, commenting on the complexity of the industrial fund equipment procurement process, noted that the Army has 24 documents that are used in the capital equipment procurement process. They also report that the Asset Capitalization Program would reduce the overhead paperwork by approximately 80 percent. It would seem that, regardless of the method of financing of the equipment, the individual plant managers could be given the kind of authority for equipment purchases with procurement funds and DoD could reap the management streamlining benefits without necessarily shifting to the ACP program. Isn't that true?

Answer. As a matter of clarification the 24 documents are not all required for each piece of equipment to be acquired. Rather this is a laundry list of all the various documents that may be part of the acquisition process depending on the type of equipment and the program under which it is acquired.

Appropriation accounting and reporting systems are not currently used by Industrial Funds. Some increase in paperwork would be required in order for Industrial Fund activities to comply with current appropriated fund safeguards and reporting requirements. Nevertheless, the delegation of the approval authority to the major subordinate command or installation level for equipment acquisitions would streamline the acquisition process regardless of the funding source. Prior experience in the Army indicates that 85 percent of the documents for equipment acquisition are associated with items of equipment costing $50,000 or less. This for example represents only 27 percent of the total dollars associated with equipment purchased by the depot system.

Reductions in documentation requirements is only one benefit that is envisioned under the proposed capital equipment policy. More significantly, authority for Industrial Funds to purchase equipment can reduce the procurement cycle. (For example, the

Army estimates that the reduction in time would be from an estimated 51 months using appropriation funding to approximately 19 months utilizing Industrial Fund resources. This represents the cycle from identification of the requirement to the start of the fiscal year in which the item would be funded, not to include the acquisition cycle.) This translates to modernization of equipment in a significantly shorter time frame then if procurement funded. Consequently, associated benefits can and will be realized at a much faster rate.

FINANCIAL STATUS OF DOD'S INDUSTRIAL FUNDS

Question. At the end of fiscal year 1983, it is expected that industrial fund profits will rise to $490.6 million. Revolving funds were established under the premise that every attempt should be made to show neither a profit/or a loss at the end of each fiscal year.

Why is such a large profit being planned for in fiscal year 1983?

Answer. Profits of over $490 million as projected in the fiscal year 1983 President's budget are required to recoup prior year losses ($75 million), meet operational cash flow requirements of the Industrial Funds ($184 million), and to offset a significant decrease in cash which is anticipated to occur as a result of removing contract depot maintenance from the Air Force Industrial Fund ($232 million).

The Department's cash position has diminished in relative terms over the period since the various Industrial Funds were established. To meet their cash requirements, the Service Industrial Funds have had to devote additional efforts, and to implement various procedures, which in many instances may not be cost effective but are necessary to attain even minimum cash balances. These efforts have often resulted in other "hidden costs" of managing the Industrial Funds. Additional cash resources in the Industrial Funds are required in order to prevent more serious cash problems.

Question. Will it be used to pay for new equipment as part of the $706 million or will it be in addition to the $706 million to be spent for equipment?

Answer. None of the profits provided for in the fiscal year 1983 President's budget have been requested for the purpose of purchasing equipment in fiscal year 1983. As stated previously these profits are anticipated to recoup previous losses, meet operational cash requirements, and to offset anticipated cash decreases.

Question. When the industrial funds were established in the early 1950's they were provided with 30 days of cash as part of the working capital fund to pay their bills. Since then, inflation has seriously eroded this 30-day cash position.

What would you estimate the current cash position to be for the industrial fund as a whole?

Answer. While the cash position varies among the Industrial Funds, the Industrial Funds as a whole contained the equivalent of approximately eight days cash as of June 30, 1982. This is significantly (three to four days) below the projected end fiscal year 1982 cash position of 11 to 12 days assumed in the fiscal year 1983 President's budget.

Question. What would you estimate it to be for fiscal year 1983 as reflected in the budget?

Answer. The fiscal year 1983 budget provided for a cash position of approximately 15 days cash for the Industrial Funds as a whole at the end of fiscal year 1983. More recent information indicates that cash balances at the beginning of fiscal year 1983 may be below previously projected levels and that profits in fiscal year 1983 may be significantly lower than projected. Therefore, this level of cash (15 days) may not be achieved.

Question. If the Congress deletes the $490.6 million in profit currently displayed in the budget, how many days would you anticipate your cash position to represent?

Answer. Deletion of $490.6 million in profits could be anticipated to reduce the cash position of the Industrial Funds by approximately six days. This would result in a budgeted cash position of nine days. However, as stated previously, current cash balances are below those projected for fiscal year 1982. Thus, actual cash balances may be below nine days.

Question. If the Congress deleted the full $706 million in obligational authority and returned the authority for purchasing industrial equipment to the procurement accounts, what impact would this have on the industrial fund cash position?

Answer. Denial of the Department's capitalization initiative and the return of associated resources to appropriated funds, would result in a cash decrease of approximately $50 million in the Industrial Funds. This reduction in cash occurs because projected collections associated with depreciation charges in fiscal year 1983 are estimated to be in excess of cash outlays associated with equipment purchases in fiscal year 1983.

Question. In early January 1982, because of a set of unusual circumstances, the Navy's cash reserves dwindled to a reportedly low of "less than three hours" cash availability. What led to this situation?

Answer. Cash reserves are generated by the difference between collections from customers for work performed and payments made for salaries, supplies and services. In early January 1982, the level of billings dropped due to a slowdown in output caused by several factors: Christmas vacations, end-of-year plant shutdowns, employee absences due to bad weather and computer down time. However, payments for salaries and supplies which had been ordered continued. Thus, income dropped significantly while expenditures remained constant. The result was a depletion of cash. The normal flow of processing billing to Navy and non-Navy customers was resumed in February and March 1982 and the immediate cash shortage was corrected. However, capitalizaton of the Navy Industrial Fund is $284 million and with fiscal year 1982 obligations averaging approximately $1 billion each month, this represents only 6 days funding under normal conditions.

Question. If the Congress approves the depreciation proposal, does this mean that the industrial fund would maintain a cash reserve separate and apart from the corpus which would be reserved for these new expenses?

Answer. The implementation of the capitalization initiative as proposed by DoD does not provide for the establishment of separate cash reserves. Reserves proposed by the Department are reserves involving the retained income or deficits within the Government's equity in the Industrial Funds.

MEASUREMENT OVERSIGHT

Question. The process by which the industrial fund activity manager obtains equipment through direct appropriations has been described by our Investigative staff as "long; arduous; multilayered; time consuming; generally disappointing with regard to results; replete with roadblocks which can sidetrack or reduce his requirements for any number of reasons; and one over which he has little influence or control." Under the proposed procedures, authority to determine specific equipment purchases is to be retained at the individual industrial activity level.

This Committee has traditionally supported and occasionally directed DoD efforts to streamline its management procedures. However, the proposed change for procuring industrial fund equipment would appear to remove virtually all management review prior to equipment purchased. Would you briefly walk the Committee through and indicate for the typical industrial facility what would be the involvement of the various management levels up through and including the Congress in terms of equipment approvals prior to purchase?

Answer. Within approved equipment budget amounts, the Army plans to delegate authority for the procurement of Army Industrial Fund (AIF) capital equipment to both Headquarters US Army Materiel and Readiness Command (HQDARCOM) and Military Traffic Management Command (MTMC). No additional approval authority for specific equipment purchases will be maintained at Headquarters Department of the Army (HQDA). Within DARCOM, authority for the procurement of equipment will be delegated to the subordinate commands in an amount not to exceed $200,000 per item. Further delegation, not to exceed $50,000 per item will be made to the installation level manager. For items of equipment in excess of $200,000 HQDARCOM approval must be received.

Specific equipment requirements are to be determined at the installation level by appropriate cost/work center managers in concert with equipment managers. Technical equipment requirements will be reviewed by production base support personnel; general purpose equipment will be reviewed by installation management support personnel. Lists of equipment will be compiled showing, in addition to nomenclature and amounts, such things as prioritization, estimated ordering and delivery dates, etc.

A Program Budget Advisory Committee, made up of key individuals at the installation level, will review the installation's total equipment requirements and recommend approval and transmittal to the parent activity group level such as US Army Depot Systems Command or US Army Armament Materiel Readiness Command (DESCOM, ARRCOM). In turn, the activity group level will review and approve each subordinate installation's capital equipment requirements. These requirements, when approved, are also used for inclusion in the consolidated AIF activity group level budget.

AIF (activity level) equipment procedures will include cash outlay analysis, economic analysis, as required, and compliance with all Department of the Army (DA), Office, Secretary of Defense (OSD), Office of Management and Budget (OMB), and congressional requirements relative to the management and approval of equipment purchases. These include such considerations as: Economic analyses, Defense Industrial Plant Equipment Center (DIPEC) screening, DA, Occupational Safety and Health Act (OSHA), environmental, and energy reviews. In addition, adequate documentation will be maintained by the post to support the investment and audit the results.

The following is an example of the capital equipment budget formulation and review process for a Naval shipyard. (A similar process exists for other Industrial Fund activities within the Navy.) A shipyard planning group including the commander, production managers, productivity specialists, and comptroller representatives will develop the individual shipyard equipment needs. (Individual items of equipment costing over $300,000 require Activity Group Manager (AGM) approval—NAVSEA in this example.) These requirements will be incorporated into a long range equipment requirements plan for the shipyard Activity Group by the Naval Sea Systems Command (NAVSEA). These requirements will be based on capabilities necessary to perform the various functions and the anticipated workloads assigned to the shipyards. Activity Group requirements will be submitted by NAVSEA to the Chief of Naval Material for review and incorporation into the equipment requirements plan for the entire Department of the Navy industrial facility base.

The Comptroller of the Navy (NAVCOMPT) will issue annual fiscal guidance for the size of the capital equipment budget to be included in the budget submission. Based upon this guidance, a capital equipment budget for the shipyard Activity Group will be submitted to NAVCOMPT, via the Chief of Naval Material. NAVCOMPT will require separate justification for all equipment requirements primarily intended to increase capacity or capability and all items over $1,000,000 in cost. NAVCOMPT will reconcile equipment budget, costs, revenues, rates and customer accounts. After necessary adjustments, the Department of the Navy will submit the capital equipment budget to the Office of the Secretary of Defense (OSD). Separate justification of equipment primarily intended to increase capacity or capability is required. OSD will review and approve obligations, outlays, customer rates, and the balance among the industrial fund operating budget, the capital equipment budget, and customer appropriations. Equipment costs will be included in the industrial fund budget statements submitted to the Congress.

The major points in the Air Force Industrial Fund programing, budgeting, and execution process, highlighted from the equipment requirements point of view are outlined for the Committee. The process directly involves installation, MAJCOM, HQ USAF, and OSD personnel. OSD financial managers evaluate Industrial Fund budget requirements in conjunction with customer appropriated fund budget reviews. As indicated by the outline, substantial management review exists at activity and activity group levels, with conditions established for HQ USAF and OSD review.

PROGRAMING

Activity level identifies capital equipment need.

Participants include engineers, shop supervisors, equipment operators, machine maintenance technicians, and others as required.

Requirements go through installation review.

Reviews held periodically to analyze past and projected purchases.

Conducted by activity level resource managers.

Economic analyses required to justify equipment purchases.

Prepared for each item costing over $100 thousand.

Generated by Computer for purchases under $100 thousand.

File maintained for audit and reviews.

Evaluated for priority ranking.

Approved requirements prepared for installation budget.

Equipment budget baseline prepared 15 months prior to program year.

Cost data prepared for industrial fund budget.

An equipment requirements brochure is prepared to support the budget request.

Bulk line funding for $10 thousand unit cost or less only.

Prepared for MAJCOM budget call.

BUDGET

AF and MAJCOM Industrial Fund budget call Installation Industrial Fund budget preparation.

Requirements list prepared in priority sequence.

Obligation budget.

Outlay budget.

Forward to MAJCOM 14 months before program year.

MAJCOM consolidation of Industrial Fund requirements.

Review.

Priority ranking.

Consolidated capital equipment requirements lists prepared (G017 computer generated list plus a detailed equipment brochure).

Obligation budget.

Outlay budget.

Forward to HQ USAF 13 months before program year.

HQ USAF Industrial Fund budget preparation.

Review Industrial Fund activity submissions.

Consolidated obligation/outlay budget prepared.

Complete capital equipment requirements list and brochure kept as backup.

Forward budget to OSD twelve months prior to program year.

OSD Industrial Fund budget review.

Obligation/outlay review.

Capital equipment requirements list review as required.

Approve or disapprove items.

Special approval for capability/capacity enhancing equipment.

Set TOA control limits for capital equipment purchases.

Approved budget provided to Air Force after PBD cycle.

EXECUTION

HQ USAF:

Reviews OSD approved Industrial Fund budget.

Allocates to MAJCOMS.

Stays within TOA control limits.

MAJCOM:

Reviews approved budget for adjustments.

Allocates TOA limits to activity levels based upon relative priority.

Installation is delegated approval for items up to $100,000.

MAJCOM retains approval authority for purchases over $100,000.

Establishes purchase controls as needed.

Installation activity level:

Review approved budget and allocation.

Allocated to industrial fund managers.

Has approval authority for purchases up to $100,000.

Reviews obligation/outlay plan for adjustments.

Receives approved capital equipment requirements list.

Industrial Fund manager prepares funded purchase request (PR).

Can substitute from approved requirements list.

Sends PR to item manager (IM).

IM sends PR to procurement activity.

Contract awarded.

Equipment received.

Disbursement.

Capital equipment budget cannot be exceeded without prior OSD approval.

Question. What sort of after-the-fact review would the new system call for at each of these same management levels?

Answer. In addition to annual fiscal reports, current practices require Industrial Fund activities to submit quarterly financial reports to OSD. More frequent reports are usually required within each Service. Activity managers will be required to comply with all Service, DoD, OMB, Congressional and other restrictions imposed relative to the purchases of equipment. Activities will be required to maintain adequate documentation relative to equipment purchase decisions. This justification must include economic analysis rationale and other information sufficient to allow for a post-investment review and the comparison of projected benefits with benefits realized. Similar to current practices relative to the expenditure of funds for appropriated fund programs, this information will be available for compilation and review by other management levels having oversight responsibility.

COMPARISON OF DOD'S INDUSTRIAL EQUIPMENT STATUS WITH THAT OF PRIVATE INDUSTRY

Question. Using information contained in the *Twelfth American Machinist Inventory* published in December 1978, a comparison can be made in two categories: metal working-cutting and metal working-forming. These are considered to be the primary machine tools. This comparison indicates that while about 35 percent of U.S. industry's equipment in these two categories was over 20 years old (in 1978) the Army, Navy, and DLA (for which the only comparative DoD data is available) have equipment 20 years (in 1982) ranging from 55 percent to 83.4 percent of their inventories.

Does this show that DoD's primary machine tools are over aged compared to U.S. industries?

Answer. Yes. The information published in the Twelfth American Machinist Inventory provides an indication that for equipment for which comparable information was available and compared, DoD's equipment, in the aggregate, is older than that of the private sector's.

Question. Does DoD have the information available which would compare DoD's industrial equipment status to that of U.S. industries?

Answer. Because of the problems of aggregation discussed previously, DoD is unable to compare the status of its Industrial Fund equipment to that of U.S. industries. Such a comparison is hampered not only by the absence of meaningful DoD aggregated summaries but also the absence of meaningful aggregate private sector information which would be comparable to the mix of equipment found at our Industrial funds. Available indicators, however, reveal that DoD has not been investing in capital equipment at a rate similar to private businesses in many instances.

Question. The Investigative staff research produced a surprising conclusion, stating that "American industry has not been getting more obsolescent, as is widely believed." To support this contention, the report found that for 1970, 1976, 1978, and 1980, industry only considered anywhere from 10 to 12 percent of its equipment to be outmoded. On the other hand, the Investigative staff reported that "American industry has not made any great gains in overcoming obsolescence." Has the Department made any study of the way U.S. or foreign private industry replaced its industrial equipment before embarking on the Asset Capitalization Program?

Answer. While the Department did not undertake a specific study of the way any particular U.S. or foreign private industry replaces its industrial equipment, the capitalization initiative proposed by the Department is modeled after the basic method used in the private sector to replace capital equipment.

Question. The Caterpillar Tractor Company in Peoria, Illinois, graciously discussed its plant equipment replacement practices with the Investigative staff to provide the Committee a point of comparison. Our investigators found that at Caterpillar serviceability is more of a key issue than actual age of the equipment. For example, if equipment is "old" but serviceable and adequate from a production standpoint, there is little concern for its age. On the other hand, if the quality of a machine's output becomes marginal because of age or any other factor, it becomes a candidate for replacment or refurbishing.

Does DoD agree with the general thrust of Caterpillar's policy?

Answer. Yes. The key factor in replacing equipment is not the age of the equipment, per se, but rather the capability and efficiency of the equipment. While the age of a piece of equipment can in many instances be an indicator of the likely relative capability and efficiency of equipment, it is not by itself sufficient information on which to make decisions relative to the repair, renovation, or replacement of equipment.

Question. Has DoD issued any instructions or guidance which would indicate that age alone is not sufficient reason to replace equipment?

Answer. Yes. DoD Directive 4275.5, "Acquisition and Management of Industrial Resources," states "the primary justification for accomplishment of replacement or modernization projects are the economic and technical benefits to be obtained by (1) introducing advanced manufacturing processes to enhance productivity; (2) alleviating equipment obsolescence; and (3) making the government-owned segment of the production base more responsive to industrial preparedness requirements."

Question. It has been the experience of the Committee staff as well as the Investigative staff that Department of Defense employees have little exposure to the practices of private industry in terms of managing DoD's industrial equipment. The Caterpillar Tractor Company expressed the opinion that a greater exchange of information on the subject of equipment status between private industry and DoD industrial plant officials may be beneficial. Regardless of the difficulty DoD has had in quantifyng and expressing its plant equipment problems, has the Department made any plans for taking advantage of industry's expertise for an evaluation and quantification of a given depot's or service's plant equipment situation?

Answer. Yes. Considering the extent of Army Government Owned, Contractor Operated (GOGO) and Contractor Owned, Contractor Operated (COCO) operations identifying their equipment needs there is substantial involvement with industry. In addition, the Army through its manufacturing technology program is actively involved in exchanging information with industry on state-of-the-art manufacturing techniques and the equipment to perform the new processes. Finally, there are industrial preparedness measures which indicate the needs of the Army, its GOCOs and COCOs, and planned industry procedures for mobilization in terms of capacity and equipment. For example, studies were done by Detroit Diesel in 1981 for support of transmission for M-60 tanks and by General Dynamics in early 1982 for the tank base.

In 1970 Headquarters Air Force Logistics Command (AFLC) hired Tate Technical Service, Inc., to aid in establishing what is now known as the G017 equipment management system. In 1974 AFLC participated with several industry associations, private firms, and the other services in the Numerical Control Language Standardization study. In 1977, at HQ AFLC request, Warner Robins Air Logistics Center contracted with Battelle to determine what new and emerging technology could be applied and was needed to improve the AFLC numerical control program. In 1979 AFLC participated with industry in the Machine Tool Task Force (MTTF) study. MTTF looked into the future needs and technology of machine tools. There is currently a contract to assess facility, equipment and process improvements in the repair and overhaul of landing gear. AFLC and AFSC work together with the Repair Technology (REPTECH) program to insure continued application of the latest technology to depot repair processses. Most often these projects require use of industry expertise.

POSITION OF THE MILITARY SERVICES

Question. The Investigative staff reported that at the departmental levels, a mixed reaction to the new Asset Capitalization Program was evidenced ranging from enthusiastic in the Navy to lukewarm in the Air Force.

The Air Force reportedly had serious reservations originally about the new policy which resulted in the exclusion of portions of the industrial fund as well as exclusion of weapons systems peculiar equipment.

Why did the Air Force argue for these exceptions?

Answer. Peculiar Equipment: Peculiar equipment is programed as part of the costs of weapon systems or modifications to weapon systems. Frequently, development costs are involved preceding procurement. On systems reported on Selected Acquisition Reports, these costs are essential ingredients of total weapon systems costs and are scrutinized by Congress. Thus, development and procurement of peculiar equipment through the Industrial Fund would obscure visibility of the costs of the system being supported.

Further, since peculiar equipment would require several years to develop, engineer, and procure, there would be large costs to the Industrial Fund long before delivery for use.

Lastly, such peculiar equipment is not institutional to any maintenance activity, organic or contract. Thus it would have to be provided as Government Furnished Equipment (GFE) to a contractor, and should also be provided free to the organic shop.

ASIF: The viability of the ASIF as a management tool is contingent on tariff rates which are competitive with commercial alternatives. Since ASIF was never designed to recover all costs of operation, major cost elements have been excluded from the computation of the tariff base. Instead, the ASIF was designed to use the flying hours that must be flown for readiness training to produce, as a by-product, airlift capability that can be used during peacetime to satisfy the logistics airlift movement requirements of DoD. However, the logistics decision process must take into account the least cost transportation alternative; thus, if the MAC rates become non-competitive, the airlift users will sub-optimize and divert portions of their requirements to other, apparently less expensive modes of transportation. A portion of these would most certainly consist of commercial sources. Such a migration would result in a significant loss of revenue to the ASIF, thereby requiring a larger amount of direct funding to support readiness training. This additional funding would also have to include an amount for the capitalization of equipment.

The net effect of these actions culminates in higher costs to the U.S. Government to perform the same transportation movements and training requirements currently being performed.

Question. According to the Investigative staff, the Air Force still has concerns regarding (1) the effort required to implement the new policy in view of the limited time available; (2) the trend toward migration of funds from procurement to O&M appropriations; and (3) the belief it would be paying a disproportionate share of the Army and Navy equipment modernization programs. Would the Air Force care to comment on these concerns?

Answer. (1) The Air Force reaction a year ago was based upon doubts and apprehension, much of which has been dispelled. (2) The issue of migration of funds is one of perception. Many analysts make trend charts and draw conclusions based on ratios of investment to operating costs. Capitalization will cause a further distortion of a ratio trend already distorted by previous migrations. (3) Initially, the Air Force feared that a disproportionate percentage of capitalization costs would go to the older depots and shipyards of the Army and Navy. This would add larger amounts to their rates than the Air Force would experience in its rate. Since the Air Force buys far more maintenance from the other Services than they buy from the Air Force, the Air Force would be subsidizing the modernization of the other services to a larger extent. Fears of the imbalance have subsided as more has been learned about the asset capitalization program.

Question. The only reservation that was pointed out for the Army was that it believes the new policy should include equipment for their industrially funded supply function.

(a) Why did the Army feel that this particular industrial function should be included?

(b) Does the Army have any other reservations about the new program including the earlier discussed Air Force's concern about the limited time available to implement the new policy?

Answer. The Army feels that the potential for achieving a higher degree of efficiency and productivity through the Asset Capitalization Program (ACP) is as great in supply operations as it is in other functional areas of the industrial fund.

Supply functions in the Army Industrial Fund (AIF) are an integral part of a multimission entity operating under a single management function. The maintenance, manufacturing, and supply functions are interdependent at many AIF activities and capital equipment, in many cases, supports all functions. Funding this equipment by a different means complicates the management process.

The Army, initially had concern regarding the timing of the implementation of this policy. It has required a herculean effort on the part of all departmental levels in the Army to establish a workable program that will be implemented on 1 Oct. 82. We have accomplished by far the majority of planning and implementing actions and genuinely look forward to prompt implementation.

An additional concern of the Army is the necessity to continue the Renovation of Armament Manufacturing (REARM) initiative at both Watervliet (WVA) and Rock Island Arsenals (RIA). The REARM is a long term modernization project which began at WVA in fiscal year 1978 and will end in fiscal year 1985. REARM will begin at RIA in fiscal year 1983 and end around fiscal year 1990. To date this important program has been successfully funded through the procurement account.

Question. The only reaction provided by our Investigative staff with regard to the Navy was one of "enthusiastic" support for the program. Does the Navy or the Marine Corps have any reservations whatsoever with the new program?

Answer. The Navy and Marine Corps have no reservations with the new Asset Capitalization Program and strongly support this opportunity to manage our industrially-funded activities more nearly like a business. The management responsibility for capital resources will be aligned with the responsibility for the cost of industrial fund operations. This will allow us to recapitalize our industrial facilities to achieve more efficient and productive operations. The end result will be lower unit costs to customer appropriations and a more accurate measure of the actual costs of goods and services provided.

Question. Would the representatives of OSD please comment as to why certain reservations by the military services were deemed worthy of changing the original concept and why others were ignored?

Answer. The original concept relative to the capitalization initiative was approved by the Deputy Secretary of Defense in August 1981. In developing the more detailed policies necessary to implement the capitilization initiative, the OSD staff worked closely with the Services. As the OSD staff developed the proposed implementation policies, Service comments were solicited. In a number of instances the concerns raised by the Services appeared valid and modifications to the proposed implementation policies were made. In other instances, the reservations expressed by the Services did not appear to outweigh the benefits of the proposed policies.

Question. As long as an equipment modernization program begins, do the Military Services ultimately care whether the additional funding is provided in the procurement accounts or is washed through the customer accounts?

Answer. Yes the Army does care about the method of funding equipment modernization. In addition to obtaining the required equipment, the new policy will give us the benefits of a business-like approach to management and a more properly costed product. It will also provide a more simple and manageable method of budgeting and gaining approval for equipment, as compared with appropriation funding.

Yes, the Department of the Navy does care and prefers operating within the new Asset Capitalization Program under a business-like capital investment budget concept. Depreciation will be charged as part of the cost of operations and more nearly enable the full cost of both customer programs and industrial activity operations to be determined. At the same time, charging for depreciation will generate cash which will enable industrial-funded activities to efficiently replace equipment when its useful life has ended.

Yes, the Air Force does care. The Air Force supports the asset capitalization program because it aids industrial fund managers by eliminating some of the uncertainty in investment planning. Under the procurement appropriations, industrial fund managers are continually required to revise priority listings of equipment requirements because of many factors outside their control. While managers will still need to priority rank their needs under the capitalization program, the control and responsibility for bottom line operating results, now including equipment, gives the manager the flexibility to weigh alternatives in a more business-like approach to equipment management, as well as more direct control and participation in equipment modernization and replacement efforts.

Question. The report to the Committee stated that "it seemed very clear that the Investigative staff was the only organization with sufficient interest in the new equipment capitalization program to, in someway, attempt to quantify the problem." Do the military services disagree with this statement and if so what attempts have been made to quantify the problems that were not recognized by our investigators?

Answer. Yes, the Services do disagree with this statement. Attempts have been made to quantify the problem as illustrated in the Vintage Study (1981) of Department of the Army Industrial Plant Equipment, provided to the Investigative staff. This study measured such parameters as age of industrial plant equipment by category, e.g., metal cutting, welding, metal forming, and quantity and percentage of equipment exceeding useful service life. It also compared the age of DARCOM equipment with that in industry.

The Navy has a detailed property record for every item of Industrial Plant Equipment and Other Plant Equipment costing more than $1,000 with a useful life of two years or more. This record contains data such as Federal Supply Classification, acquisition cost, current book value, date of acquisition, useful life, etc. The Naval Material Command has prepared various analytical data to determine the current status of its equipment, quantify current book values and related annual deprciation expense, ascertain the impact of the DoD Asset Capitalization Program on Navy Industrial Fund cash and stabilized rates, etc. This data is available for the Investigative staff's review. We believe that the problem that the Investigative Staff identified is one of developing a single indicator for quantifying the problems across the entire industrial base. We believe that this type of composite indicator would be of little value to DoD management since it would tend to obscure the unique equipment characteristics and requirements within our multi-faceted industrial fund community.

While the Air Force feels the Investigative staff did an excellent review of the capitalization issues, perhaps they were not exposed to many of the actions underway in the Air Force to implement the program in fiscal year 1983. Numerous workshops have been conducted, both at activity and activity group levels. Assessment of equipment requirements, accounting system changes, data system changes, depreciation methodology, and many other issues have been addressed. Steering committees have been formed to direct the complex elements of the capitalization initiative.

CAPABILITY OF THE PROCUREMENT PROCESS

Question. In most cases, the industrial fund activity manager must submit his purchase request to a designated procurement office. From that point on, he loses control over the action and must rely on the procurement office. Concern was expressed during one of our Investigative staff visits that the activity expected to have all the documents needed to initiate procurement action on his proposed equipment purchases ready by October 1, 1982. However, the activity did not expect the procurement office to complete all the actions necessary to obligate the funds for the requested equipment before the end of the fiscal year.

Is this an isolated occurrence or do you anticipate that the procurement offices will be overburdened with actions and will not be able to complete the procurement in a timely fashion?

Answer. The Services will not be initiating all procurement documents within a limited time frame, but expect to process these actions throughout the year. The total number of procurement actions associated with this program represents an insignificant portion of the total procurement workload. This initiative is not expected to have a noticeable effect on the timeliness of procurement actions. The small increase in the dollar volume of workload can be accomplished with the processing capabilities which are programed in fiscal year 1983.

Question. Has any effort been made to check the workload of the procurement offices to determine whether they will in fact be able to handle the additional workload?

Answer. The procurement actions will be spread among several procurement offices. In each case the equipment workload will be a small fraction of the total buying activity at the installation.

DEPRECIATION OF ADP EQUIPMENT AND ADMINISTRATIVE VEHICLES

Question. In addition to what is normally thought of as industrial equipment, the Asset Capitalization Program would include both administrative vehicles and ADP equipment.

This Committee has long maintained tight control over the purchase of administrative vehicles because of the potential for abuse with these types of vehicles. Since administrative vehicles only remotely contribute to increased productivity in industrial functions, why is it necessary to include them in this program?

Answer. It is not essential that administrative vehicles be included under the Department's Industrial Fund capitalization initiative. The exclusion of administrative vehicles could require additional administrative efforts if the financing and managing of these vehicles is in a manner different from other equipment assets of the Industrial Fund. In order to reduce the administrative efforts and the additional complexities, or even confusion, that might result from a vast range of excepted equipment, exceptions to the proposed initiative were limited to instances where the benefits of exclusion appeared to exceed the benefits of inclusion. In this context the exclusion of administrative vehicles did not appear to offer significant benefits to the Department.

Question. According to our Investigative staff, the Air Force does not intend to capitalize passenger vehicles since its industrial fund activities obtain them from the base motor pool which services all base organizations, industrial fund and otherwise. If the Air Force is not including the administrative vehicles in this category, doesn't this argue that it is not necessary for the other services to include them as well?

Answer. Unlike the Industrial Fund activities of the other Services, Air Force Industrial Fund activities do not "own" passenger vehicles. Air Force Industrial Fund activities "rent" passenger vehicles from local base organizations on an "as needed" basis. The capitalization policy relative to passenger vehicles in the Air Force is not any different than it is for the other Services. The policy, however, is not applicable because the Air Force Industrial Fund activities do not "own" passenger vehicles.

Question. Other than rather small local systems, almost every ADP purchase must be carefully planned and implemented to ensure that the system integrates with other DoD and service systems. Since purchases of a major ADP system can hardly be considered in a vacuum by a local activity manager, does it make sense to include ADP in the depreciation process?

Answer. The Department believes that it does make sense to include ADP equipment in the depreciation process. One of the policies associated with the Department's proposed initiative is that "Industrial Funds will be required to continue to comply with all DoD, OMB, congressional, and other requirements relative to the management and approval process for the purchase of equipment, as well as other restrictions relative to purchases of equipment." Local activity managers will not be permitted to purchase ADP equipment in a vacuum without compliance with existing safeguards or devoid of the need for systems integration. For ADP equipment, the Department's proposed initiative impacts primarily on the manner in which ADP equipment is to be funded after the purchase of the equipment is approved. The exclusion of ADP equipment from the Department's proposed capitalization initiative would mean that Industrial Fund managers might not have to live with the (cost) impact on their operations of decisions associated with ADP equipment. The Department believes that relieving Industrial Fund managers of the responsibility to recoup the costs of ADP equipment purchases while allowing them to realize all the benefits and savings, might contribute toward a less effective system for assessing ADP requirements and benefits.

EXCLUDING MILITARY CONSTRUCTION FROM THE ASSET CAPITALIZATION PROGRAM

Question. OSD officials stated to our investigators that at this time, they have no intention of including military construction costs under the new Asset Capitalization Program (ACP). As a result, the fiscal year 1983 budget does not reflect any military construction costs being passed through to the customer appropriations.

Does the Department intend at any point to accomplish military construction through customer financing?

Answer. Consistent with the authority provided in the operating appropriations of the Department, Industrial Fund activities will be permitted to undertake alterations or minor construction projects not to exceed $100,000. These costs will be recovered through customer financing in much the same manner as equipment purchases. In compliance with congressional restrictions, projects funded by the Industrial Funds will be limited by the threshold established by the Congress relative to those projects which do not require specific authorization and which may be financed by other than Military Construction appropriations. All projects which exceed such minimum cost levels as may be established by the Congress will continue to be submitted for authorization and funded with Military Construction appropriations.

Conceptually, all military construction projects, could be financed in the Industrial Fund in much the same manner as would be equipment purchases encompassed by the Department's capitalization initiative. (Such projects would still be subject to specific congressional authorization.) The magnitude of the resources that would be involved, as well as other unique aspects of military construction programs are such that the Department does not believe that it is currently feasible to accomplish military construction programs through the Industrial Funds for other than those limited projects discussed above.

Question. The comment was made to our investigators that some changes may ultimately be desirable such as financing specific minor construction projects associated with the installation of essential equipment with industrial fund resources reimbursed from customer accounts instead of the military construction appropriation. Would you briefly discuss the advantages of such an approach and comment as to when, if ever, the Department intends to propose such a plan?

Answer. The Department does not have a plan to propose financing military construction projects in the Industrial Funds. To the extent that actual experience indicates that in certain instances the separation of funding responsibilities for construction projects and equipment purchases poses significant problems, the Department may want to reexamine whether a change in the current policy is desirable. To some extent, financing military construction projects in the Industrial Funds offers many of the same benefits associated with the capitalization initiative relative to equipment purchases. However, other considerations associated with funding military construction projects in the Industrial Funds appear to outweigh the benefits of such a change.

Question. Have any discussions been held with the Military Construction Subcommittees of the House and Senate Appropriations and Armed Services Committee?

Answer. The Department has no specific plans to modify the financing of military construction projects as currently provided for through the various Military Construction appropriations. Accordingly, no discussions have been held with the Military Construction Subcommittees of the House and Senate Appropriations and Armed Services Committees.

ACTION TAKEN BY HOUSE ARMED SERVICES COMMITTEES

Question. The Renovaton of Armament Manufacturing (REARM) is a long term project lasting through 1990 intended to modernize weapons production facilities at Watervliet and Rock Island Arsenals. In it report No. 97-483, the House Armed Services Committee took exception to the REARM program being included in the Asset Capitalization Program. Because the Armed Services Committee felt the REARM program is an integral part of the production base support for tracked vehicles, it requested in its report that "future Defense budgets reflect funding for the REARM program in the

Army Weapons and Tracked Combat Vehicle appropriation." The Committee also recommended a $41.7 million increase in that apropriation.

If this Committee applied the Armed Services Committee logic across the board, would this not logically lead to the rejection of the entire Asset Capitalization Program?

Answer. Yes, application of the Armed Services Committees logic to the entire asset capitalization program proposed by the Department could logically lead to the rejection of DoD's proposal.

Question. Since the Armed Services Committee recommended $41.7 million to be included in a specific procurement appropriation, if this Committee accepts the Asset Capitalization Program as proposed by DoD, would it be fair to delete $41.7 million from the customer account since that amount of financing for equipment has been provided elsewhere?

Answer. Industrial Fund customer rates provide for recoupment of only $1.7 million in fiscal year 1983 associated with fiscal year 1983 purchases of equipment under the REARM program. Equipment purchased in fiscal year 1983 should not be anticipated to be delivered until subsequent years in many instances. Under DoD's proposed initiative, customers are charged for the costs of equipment as the equipment is used in the Industrial Fund's operations. The fiscal year 1983 President's budget provides for reimbursement from customers in fiscal year 1983 only for that equipment expected to be installed and in operation in fiscal year 1983. Of the $41.4 million of (REARM) equipment to be ordered in fiscal year 1983, collections from customers in fiscal year 1983 are estimated to be $1.3 million from the Weapons and Tracked Combat Vehicle procurement appropriation, $.1 million from the Operation and Maintenance, Army appropriation and $.3 million from all other customers.

ACTIVITIES EXCLUDED FROM ASSET CAPITALIZATION PROGRAM

Question. Certain industrial fund activities were excluded from the asset Capitalization Program (ACP).

Which activities were excluded?

Answer. Industrial Fund activities excluded from the ACP include the Airlift Service Industrial Fund (MAC), Army Supply Functions, Navy Planning and Engineering for Repair and Alteration (PERA) offices, and Navy Sea Center (Atlantic/Pacific) offices.

Question. Why were they excluded?

Answer. The exclusion of MAC from this new initiative was granted, in part, because of the strong opposition expressed by the Air Force as to the perceived impact the proposed change would have on MAC as compared to the anticipated benefits. The other activities which were excluded were done so because those organizations were determined to be more of a nature generally financed by operating appropriations than being a commercial-industrial type activity. The inclusion of these activities (Army supply functions and Navy PERA and Sea Centers) as part of their Service's Industrial Fund appears to be largely a matter of administrative convenience due to the collocation or close proximity of these organizations with other Industrial Fund activities.

Question. What is the level of funding in fiscal year 1983 in the procurement appropriations for industrial fund equipment for these excluded activities?

Answer. Equipment purchases in the procurement appropriation are not specifically identified as to the receiving activity in many instances. Thus, the level of funding in fiscal year 1983 in the procurement appropriations for the excluded activities is not specifically identified. The estimated amounts included in the fiscal year 1983 procurement appropriation requests for all Industrial Fund equipment and activities not encompassed by the Department's initiative is estimated at $66 million.

AUTHORITY TO IMPLEMENT THE ASSET CAPITALIZATION PROGRAM

Question. Under the provisions of 10 U.S.C. 2208, DoD believes it has the authority to implement the new policy without specific congressional approval.

Is this a correct statement of your position?

Answer. Yes. The authority under which the DoD Industrial Funds operate is Section 2208 of Title 10, United States Code. This section provides very broad authority to the Secretary of Defense to conduct a business like operation of the working-capital funds of the DoD.

Section 2208(c) provides that working-capital funds are to be "reimbursed from available appropriations or otherwise credited for [certain specified] costs, including applicable administrative expenses and *costs of using equipment.*" (Emphasis added.) This, as well as the general broad authority contained in section 2208, provides the legal authority to recover, in charges made to customers, an appropriate amount associated with the cost of using equipment, i.e. depreciation that reflects the cost of the purchase of such equipment.

Question. If the Congress allows the shift of funds for equipment depreciation to the customer accounts in fiscal year 1983, is it the Department's position that this is sufficient sanctioning by the Congress for you to proceed with the new initiative?

Answer. Yes. Although the Department may have the legal authority to implement its proposed asset capitalization program, we did not desire to implement this program prior to congressional review. To the extent that congressional objections or restrictions are raised, it is the intent of the Department to comply with such restrictions.

[CLERK'S NOTE: End of questions submitted by Mr. Addabbo.]

Mr. ADDABBO. The committee will stand in recess subject to the call of the Chair.

TUESDAY, AUGUST 3, 1982.

MEDICAL ACTIVITIES

WITNESSES

DR. JOHN BEARY, III, ACTING ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)

THEODORE WOOD, DIRECTOR, CHAMPUS

LT. GEN. BERNHARD T. MITTEMEYER, THE SURGEON GENERAL OF THE ARMY

VICE ADM. J. W. COX, MEDICAL CORPS, USN, NAVY SURGEON GENERAL

CAPT. WILLIAM B. KERR, USNR, HOSPITAL SHIP COORDINATOR, OFFICE OF THE DEPUTY CHIEF OF NAVAL OPERATIONS FOR LOGISTICS

MAJ. GEN. MURPHY A. CHESNEY, USAF, MEDICAL CORPS, DEPUTY SURGEON GENERAL

REAR ADM. ALMON C. WILSON, MC, USN, PROJECT MANAGER (PML-500), CRYSTAL MALL #3

INTRODUCTION

Mr. ADDABBO. The committee will come to order.

This afternoon our hearings will deal with the Military Health Care System. Mr. Secretary, we welcome you before the committee. You are filling the Assistant Secretary of Defense Health Affairs Office on an acting basis.

We will also welcome for the first time General Mittemeyer, the Army Surgeon General.

We welcome back Vice Admiral William Cox, Surgeon General of the Navy, and we welcome for the first time Major General Chesney, Deputy Surgeon General of the Air Force.

We also welcome back Mr. Theodore Wood, Director of CHAMPUS.

Gentlemen, we have your statements, which have been gone over by the committee and its staff, and your entire statements will be made part of the record. We will also place in the record at this time tables depicting the cost estimates of the DOD medical program, estimates amounting to approximately $7 billion.

[The information follows:]

PREMISES AND OBSERVATIONS

Mr. **Addabbo**. Gentlemen, before I ask you to summarize your statements, I wish to make on behalf of the committee several observations. The committee keeps reading where there are shortfalls in our medical programs, and, Dr. Beary, you have stated, "In the past, medical readiness has not received the attention it deserves."

You also stated, "The brutal fact is that if we went to war today in Europe, in Southeast Asia or in Korea, we could only provide surgery for about one out of ten of those who would be wounded."

We also keep reading about indecisions concerning hospital ships. The Marines, despite their high level of training, are not ready for a foreign conflict, according to testimony before this committee, because of a lack of critical front-line medical care capabilities. The CHAMPUS budget is running approximately $100 million short in fiscal year 1982.

Elimination of needless duplication of facilities and services within the military system, which has been the aim of this committee, and I know is your aim, Dr. Beary, is noteworthy. We note that the use of military facilities actually is declining, and CHAMPUS is increasing despite the doctor recruitment improvements.

The Navy's premier medical facility was in danger of actually losing its national hospital accreditation. Use of PHS hospitals that are called uniformed services hospitals where the cost is even greater than the CHAMPUS program, and seems to be increasing, and the question of control of rates is very important.

Mr. Secretary, the committee is obviously concerned over the management of the medical programs of DOD, and these programs cited have not been helped by the year-long vacancy in the top DOD medical position, which you occupy in an acting capacity. Having given those premises and observations, we would ask you to summarize your statement, perhaps noting the points I have raised here this afternoon.

SUMMARY STATEMENT OF DR. JOHN BEARY III

Dr. **Beary**. Thank you, Mr. Chairman. I will first briefly address fiscal year 1983 budget requests for health and medical programs, and selectively comment on some of the points you have raised.

The Military Health Care System, stressing the word "system" essentially consists of the medical resources of the Army, Navy and Air Force, supplemented by CHAMPUS. It is a global system with 161 hospitals, staffed by 151,000 personnel, and has a budget of $6.7 billion in fiscal year 1983. It is a large system, Mr. Chairman, with sizable budget and manpower requirements, and the need to effectively manage it on a systemwide basis is apparent, particularly in light of the fact that the costs of providing health care are rising far more rapidly than any other segment in our economy.

The Consumer Price Index for all items is projected to rise this fiscal year at an annualized rate of only 6 percent. However, the hospital room portion of that index will be going up by about 18 percent. This has a tremendous effect on the CHAMPUS budget, because hospital costs account for about 65 percent of this budget. It also affects the direct care system in that labor, equipment and supply costs are also escalating.

In DOD, the in-patient cost per occupied bed-day rose 18 percent from their level in fiscal year 1981, and this was comparable to the figure I mentioned for CHAMPUS. As you mentioned in your statement, we are not where we need to be with readiness at this point. Two major shortfalls: One is surgeons. Two-thirds of these people have to be in Reserves.

There isn't enough to do in peacetime in the military hospitals to warrent the personnel you need for a mobilization requirement. Therefore, there really is no option but to have these cardiothoracic surgeons, neurosurgeons and others you need in the surgically-intensive environment of combat in the Reserves.

Regrettably, they are not there. It is full of non-surgeons, dermatologists, pathologists, et cetera, et cetera, and I say that from 12 years' experience in the program as a Reservist myself.

Let's say we can solve getting people, and we have got some programs listed in here which I think will do that. We are going to need a place for them to work. This, then, is the hospital ship. A float, deployable, operating rooms, the deployable field hospitals for which we have substantial amounts in the budget, and we are trying to meet the objections that this committee has raised in the past that this has been a program with poor coherence.

I think we can assure you that we have a management mechanism in place to credibly address that issue, standardization of deployable hospitals, in addressing the common-sense point that an Army appendix looks like a Navy appendix, so you can use the same kind of instruments, and so on, to take them out.

We are going to be seeing some new threats in the future, laser damage to the eye being one of them, from some of the new battlefield systems that our opponents will be deploying against us. Mycotoxins, or Yellow Rain; I have made some personal observations on that during a trip to Thailand. It is real, something we need to worry about. Just recently we figured out what it is, and we are now working on finding some countermeasures to it.

In a broad context, I would like to take this opportunity to express my appreciation for the scrutiny which you and your subcommittee staff have given our programs for wartime medical support. The objective assessments and constructive criticism by the committee, the staff and the GAO have been instrumental in improving our programs. As a result, current programs will provide a greater and far better organized and standardized medical capability than was previously thought possible.

Acquisition of a 2,000-bed, 20-operating-room hospital ship or ships continues to be the most critical step in assembling medical support for the RDF. As noted in the testimony last year, the requirement is universally recognized by everybody. Nobody debates it. We know we need it. We have got a timetable in place, and selection is supposed to be made by December of this year among the three or four finalists in competition for that contract.

Deployable hospitals I have already touched on. In the past there has been little interservice coordination in the development of field medical systems. However, this will no longer be the case. I would like to insert for the record a recent DOD instruction governing the standardization of field medical systems.

DEPARTMENT OF DEFENSE
COST OF MEDICAL OPERATIONS
($000)

	FY81 (Actual)	FY82 Estimate FY82 Budget	FY82 Estimate FY83 Budget	FY83 Estimate FY83 Budget
Army	$ 2,078,377	$ 2,130,351	$ 2,143,586	$ 2,327,001
Navy	1,399,206	1,662,354	1,638,498	1,681,419
Air Force	1,312,639	1,544,836	1,545,401	1,678,879
CHAMPUS	852,263	1,006,753	964,960	1,080,009
Medical Information Systems	37,784	49,627	54,654	56,501
USUHS	35,912	42,229	43,398	47,880
Total, All Appropriations, DoD	$ 5,716,181	$ 6,412,298	$ 6,527,688	$ 6,871,689

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DEPARTMENT OF DEFENSE
COST OF MEDICAL OPERATIONS
BY CATEGORY AND SERVICE
($000)

		FY81 (Actual)	FY82 Estimate FY82 Budget	FY82 Estimate FY83 Budget	FY83 Estimate FY83 Budget
I.	**MILITARY PERSONNEL**				
	ARMY	$ 742,881	$ 736,074	$ 748,877	$ 839,210
	NAVY	751,961	756,617	891,987	956,085
	AIR FORCE	668,786	721,379	709,505	826,431
	CHAMPUS	265	218	449	449
	MIS	839	839	1,059	1,059
	USUHS	11,267	13,619	15,487	16,962
	TOTAL	2,175,999	2,228,746	2,367,364	2,640,196
II.	**RESERVE PERSONNEL**				
	ARMY	14,144	15,196	15,196	16,189
	NAVY	11,947	12,451	12,700	12,013
	AIR FORCE	11,690	12,539	13,043	13,679
	CHAMPUS	---	---	---	---
	MIS	---	---	---	---
	USUHS	---	---	---	---
	TOTAL	37,781	40,186	40,939	41,881
III.	**OPERATIONS & MAINTENANCE**				
	ARMY	1,000,150	1,066,504	1,049,424	1,145,369
	NAVY	509,527	555,069	574,382	606,361
	AIR FORCE	533,483	565,055	568,096	649,760
	CHAMPUS	851,998	1,006,535	964,511	1,079,560
	MIS	35,209	41,667	46,836	50,906
	USUHS	22,065	25,760	25,128	27,833
	TOTAL	2,952,432	3,260,590	3,228,377	3,559,789

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IV. OTHER PROCUREMENT				
ARMY	72,900	74,200	71,800	79,300
NAVY	27,746	56,708	29,047	41,765
AIR FORCE	32,772	53,763	53,413	46,075
CHAMPUS	---	---	---	---
MIS	1,736	7,121	6,759	4,536
USUHS	1,180	1,200	1,133	1,285
TOTAL	136,334	192,992	162,152	172,961
V. RESEARCH, DEVELOPMENT, TEST AND EVALUATION				
ARMY	89,892	113,347	123,589	191,970
NAVY	48,113	51,913	51,963	49,655
AIR FORCE	36,798	44,000	39,844	42,558
CHAMPUS	---	---	---	---
MIS	---	---	---	---
USUHS	1,400	1,650	1,650	1,800
TOTAL	176,203	210,910	217,046	285,983
VI. MILITARY CONSTRUCTION				
ARMY	158,410	125,030	134,700	54,963
NAVY	49,912	205,740	215,610	15,540
AIR FORCE	29,110	148,100	161,500	100,376
CHAMPUS	---	---	---	---
MIS	---	---	---	---
USUHS	---	---	---	---
TOTAL	237,432	478,870	511,810	170,879
VII. TOTAL - ALL APPROPRIATIONS				
ARMY	2,078,377	2,130,351	2,143,586	2,327,001
NAVY	1,399,206	1,638,498	1,775,689	1,681,419
AIR FORCE	1,312,639	1,544,836	1,545,401	1,678,879
CHAMPUS	852,263	1,006,753	964,960	1,080,009
MIS	37,784	49,627	54,654	56,501
USUHS	35,912	42,229	43,398	47,880
TOTAL	$ 5,716,181	$ 6,412,294	$ 6,527,688	$ 6,871,689

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DEPARTMENT OF DEFENSE
COST OF MEDICAL OPERATIONS
($000)

	FY 81 (Actual)	FY 82 Estimate FY 82 Budget	FY 82 Estimate FY 83 Budget	FY 83 Budget
I. **MILITARY PERSONNEL, DoD**				
Care in Regional Defense Facilities	$ 463,325	$ 458,525	$ 479,815	$ 522,519
Care in Station Hospitals and Clinics	830,131	843,368	871,546	971,960
Dental Activities	211,231	215,161	224,595	245,959
Other Health Activities	338,750	372,773	429,772	509,446
Education & Training, Health Care	215,347	215,916	232,959	253,925
Base Operations	44,438	43,041	46,668	45,488
Command Health Care	11,023	11,670	12,768	13,989
Examining Activities	3,677	3,955	3,886	4,531
Research & Development	45,706	49,661	48,360	53,909
CHAMPUS	265	218	449	449
MIS	839	839	1,059	1,059
USUHS	11,267	13,619	15,487	16,962
TOTAL Military Personnel, DoD	2,175,999	2,228,746	2,367,364	2,640,196
II. **RESERVE PERSONNEL, DoD**				
Armed Forces Health Professions Scholarship Program	37,781	40,186	40,939	41,881
TOTAL Reserve Personnel, DoD	$ 37,781	$ 40,186	$ 40,939	$ 41,881
III. **OPERATION & MAINTENANCE, DoD**				
Care in Regional Defense Facilities	468,999	475,314	461,881	502,451
Care in Station Hospitals and Clinics	676,199	795,396	781,260	869,451
Dental Activities	73,755	83,204	81,704	88,810
Care in Non-Defense Facilities	139,124	119,966	110,176	116,917
CHAMPUS	851,998	1,006,533	964,511	1,079,560
Other Health Activities	107,721	115,019	128,897	155,382

		FY 81 (Actual)	FY 82 Estimate FY 82 Budget	FY 82 Estimate FY 83 Budget	FY 83 Budget
III.	OPERATION & Maintenance, DoD (Con't)				
	Education & Training, Health Care	$ 54,145	$ 65,808	$ 61,497	$ 71,400
	AFHPSP	39,169	39,493	43,338	47,051
	Other Health Acquisition Programs	106	--	--	--
	USUHS	22,065	25,760	25,128	27,833
	Medical Information System	35,209	41,667	46,836	50,906
	Base Operations	124,064	124,156	134,619	137,401
	Command Health Care	15,826	15,864	17,266	18,079
	Examining Activities	14,113	15,844	15,376	16,722
	Real Property Maintenance	210,188	215,526	236,914	249,283
	Communications, Health Care	3,549	3,726	3,902	4,828
	Other Medical Support	116,202	117,312	115,070	123,715
	TOTAL, Operations and Maintenance, DoD	2,952,432	3,260,590	3,228,377	3,559,789
IV.	OTHER PROCUREMENT, DoD				
	Medical Patient Care Admin Equip	$ 8,458	$ 9,009	$ 8,183	$ 10,712
	Medical/Surgical Equipment	50,172	57,888	55,981	52,109
	Dental Equipment	7,470	8,028	7,927	9,314
	Radiographic Equipment	21,986	29,247	28,135	33,138
	Pathology/Lab Equipment	23,444	24,818	24,381	22,516
	Food Svc, Prev Med., Pharmacy	4,316	4,319	4,306	3,537
	MIS	1,736	7,121	6,759	4,536
	USUHS	1,180	1,200	1,133	1,285
	Shipboard Equipment	989	2,316	2,304	1,140
	Clinical Investigation/Medicine	161	179	160	208
	Fleet Hospitals	1,230	23,609	--	--
	All Other	15,192	25,258	22,883	34,466
	TOTAL Other Procurement, DoD	$ 136,334	$ 192,992	$ 162,152	$ 172,961

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		FY 81 (Actual)	FY 82 Estimate FY 82 Budget	FY 82 Estimate FY 83 Budget	FY 83 Budget
V.	RESEARCH, DEVELOPMENT, TEST & EVALUATION, DoD				
	Research	$ 46,698	$ 56,828	$ 62,701	$ 67,524
	Exploratory Development	60,153	75,143	75,764	90,973
	Advanced Development	20,643	21,500	24,139	65,970
	Engineering Development	2,240	3,246	3,195	3,603
	Management Support	10,329	12,443	13,638	14,395
	Aerospace Biotechnology	34,740	40,100	35,959	41,718
	USUHS	1,400	1,650	1,650	1,800
	TOTAL Research, Development Test Evaluation, DoD	176,203	210,910	217,046	285,983
VI.	MILITARY CONSTRUCTION, DoD				
	Hospitals, New	$ 35,000	$ 290,500	$ 285,000	$ 2,800
	Hospital Additions	11,600	138,400	151,800	70,276
	Hospitals Upgrading	139,000	41,750	57,650	46,650
	Clinics, Dental	12,900	1,950	5,750	19,100
	Clinics, Medical	36,510	4,100	9,200	10,413
	Clinics, Combination	--	--	--	11,100
	Other	$ 2,422	$ 2,170	$ 2,410	$ 10,540
	TOTAL Military Construction	237,432	478,870	511,810	170,879
VII.	TOTAL ALL APPROPRIATIONS DoD	$ 5,716,181	$ 6,412,294	$ 6,527,788	$ 6,871,689

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This instruction requires the services to procure only those systems developed under the direction of the Military Field Medical System Standardization Group, and approved by the ASD(HA).

[The information follows]:

June 21, 1982
NUMBER 6430.1

Department of Defense Instruction

SUBJECT: DoD Deployable Medical Systems

References:
(a) DoD Directive 2010.6, "Standardization and Interoperability of Weapon Systems and Equipment within the North Atlantic Treaty Organization," March 5, 1980
(b) DoD Directive 5136.1, "Assistant Secretary of Defense (Health Affairs)," May 31, 1979
(c) DoD Directive 5136.8, "DoD Health Council," March 18. 1980
(d) DoD Instruction 4500.37, "Use of Intermodal Containers, Special-Purpose Vans, and Tactical Shelters," March 17, 1981
(e) DoD Directive 5154.18, "Defense Medical Materiel Board," May 26, 1965

A. PURPOSE

This Instruction prescribes policy and assigns responsibilities governing the standardization and acquisition of deployable medical systems, and establishes the Military Field Medical Systems Standardization Steering Group, (MFMSSSG) (enclosure 1).

B. APPLICABILITY AND SCOPE

1. This Instruction applies to the Office of the Secretary of Defense, the Military Departments, the Organization of the Joint Chiefs of Staff, and the Defense Agencies (hereafter referred to as "DoD Components"). The term "Military Services," as used herein, includes the Army, Navy, Air Force, and Marine Corps.

2. The provisions apply to standardization and acquisition of all deployable medical systems with the exception of ship or aircraft configured systems.

C. POLICY

1. It is the policy of the Department of Defense to standardize deployable medical systems. To achieve maximum standardization, increase efficiency, and minimize costs, DoD Components shall acquire only those field deployable medical systems submitted by the MFMSSSG and approved by the Assistant Secretary of Defense (Health Affairs).

2. Development of field and other deployable medical systems shall be consistent with reference (a).

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D. RESPONSIBILITIES

1. The Assistant Secretary of Defense (Health Affairs) shall:

a. Establish planning criteria under DoD Directive 5136.1 (reference (b)) for the levels of health services support to be provided by the Military Services within wartime theaters of operations, considering the coordinated recommendations of the Joint Chiefs of Staff and the Military Services.

b. Approve deployable medical systems developed under the direction of the MFMSSSG.

c. Resolve, in consultation with the DoD Health Council under DoD Directive 5136.8 (reference (c)), any deployable medical system standardization issue on which the Military Services cannot agree.

d. Review the Military Services' development and procurement programs of deployable medical systems to ensure maximum commonality.

2. The Heads of the Military Services, or designees, shall make maximum use of standardized DoD materiel from various commodity managers when developing deployable medical systems.

3. The Military Field Medical Systems Standardization Steering Group shall direct the development of deployable medical systems that are standardized to the maximum extent consistent with the distinct missions of the Military Services.

4. The Joint Committee on Tactical Shelters shall approve tactical shelters included in or used with any deployable medical system under DoD Instruction 4500.37 (reference (d)).

5. The Defense Medical Materiel Board shall establish common items of medical materiel under DoD Directive 5154.18 (reference (e)).

E. EFFECTIVE DATE AND IMPLEMENTATION

This Instruction is effective immediately. Forward two copies of the implementing documents to the Assistant Secretary of Defense (Health Affairs) within 120 days.

John Beary
John F. Beary III
Acting Assistant Secretary of Defense
(Health Affairs)

Enclosure 1
Military Field Medical Systems Standardization Steering Group Charter

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In terms of manpower, I mentioned we are 5,000 Reserve surgeons short, and that translates into a war stopper, if you have 90 percent of the people laying where they got shot. That is not exactly good for morale.

Dr. Philbin, the Deputy Assistant Secretary for Reserve Affairs, and I started the Reserve Components Medical Council, and we have done two or three things there: One, we have accelerated the appointment of what we call prescreen doctors. I had recruited the only orthopedic surgeon in New York for my Reserve unit, who gave up after it took him a year to get in.

This person has already been extensively pre-screened. You know he is not getting into the hospital for special surgery with a Sears Roebuck medical license, and if you are a member of the medical society or have been already pre-screened by your department chairman, that has a 99.9 percent reliabiltiy rate, as we found out in the Korean War when we had to do the same thing to get the people in quickly. So I am not at all worried that people will just use that tool.

Secondly, I mentioned people are not flocking to join our Reserve programs, not terribly surprising, since you do physicals for a half day, and then read the Sunday paper or the Saturday paper the rest of the time. You don't do surgery in the armory. You might teach a class or so, but that is just an hour or so.

In short, it is pretty boring, and it is no wonder people aren't signing up to get in. So that brings it, if it is a seller's market, to why don't we go meet the needs of those we want, those bright, young surgical residents who are working 70, 80 hours a week, and are at the peak of their skills, exactly the people you would want operating on you or me if we had trouble.

But they are much too busy to ever make it to the armory on a regular basis, so why not let unit commanders have the discretion to count as wartime training the operations they are doing every day of the week.

Tank drivers have to get into the armory to start up the tank, to shoot the gun, and all that sort of thing, but as I say, I have never seen anybody doing surgery in the armory over my 12 years in the Reserves, so I think if we just use a little common sense and get some support for this, we can turn that around.

It is pretty cheap to get a guy who makes 150K a year in a major surgical practice for three or four thousand a year that the Reserve entitlement is, and the bottom line is just to get him on the computer roll. They are not there right now, and if we ever get deluged, get a big glut of surgeons who want in the Reserves, we can change our practice, but we don't have that problem right now.

I think General Barrow, in a recent statement, said exactly what this is all about:

> One relates directly to the fact that as we discuss every facet of this issue, none of us has any assurance as to just how much time we have before we must fight. A horrifying picture kept coming to mind. While we debated the merits of this system or that program, soldiers, sailors, airmen and Marines were dying because we had not provided them with proper combat casualty care.
>
> I am not prepared to say that hospital ships and the fleet hospitals are the last word in medical care. I am prepared to say that without them, American fighting men will die unnecessarily.

MILITARY FIELD MEDICAL SYSTEMS STANDARDIZATION STEERING GROUP (MFMSSG)

A. PURPOSE. The MFMSSSG guides the development of standardized field medical systems for use by the Military Services to:

1. Reduce duplication of efforts in preparing for field medical operations by the Military Services.

2. Achieve maximum standardization of field medical systems within the Military Services.

3. Promote and stimulate the coordination, exchange, and critical evaluation of information to achieve objectives.

4. Provide a forum for the discussion and resolution of differences.

B. ORGANIZATION AND MANAGEMENT

1. Membership. Membership shall consist of one general or flag officer from each of the Military Services.

2. Chair. The chair will rotate annually among the members.

3. Meetings. Meetings shall be conducted at the call of the chair at least quarterly.

C. FUNCTIONS.

1. The MFMSSG shall establish Ad Hoc Joint Service Special Working Groups, as required to address specific actions necessary to achieve its purpose.

2. The MFMSSG's recommendations shall be presented to the Surgeons General of the Military Departments and the Commandant of the Marine Corps for Service approval.

3. The MFMSSG will forward Service-approved, standardized, deployable medical systems to the Assistant Secretary of Defense (Health Affairs) (ASD(HA)) for approval.

4. The MFMSSG will submit any deployable medical system standardization issue on which the Services cannot agree to the ASD(HA) for resolution.

5. Minutes of each MFMSSG meeting shall be furnished to the Surgeons General and the Commandant of the Marine Corps.

Bernhard Mittemeyer
BERNHARD T. MITTEMEYER
Lieutenant General
The Surgeon General Army

J William Cox
J. WILLIAM COX
Vice Admiral, MC, USN
The Surgeon General Navy

Paul W Myers
PAUL W. MYERS
Lieutenant General
The Surgeon General
Air Force

P. X. KELLEY
General, USMC
Assistant Commandant & Chief
of Staff Headquarters,
U.S. Marine Corps

Signed 9 June 1982
(Date)

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

IN REPLY REFER TO
23 July 1982

From: Chairman, Military Field Medical Systems Standardization Steering Group
To: Acting Assistant Secretary of Defense (Health Affairs)

Subj: Report of the Standardization Efforts of the Military Field Medical Systems Standardization Steering Group; forwarding of

Encl: (1) Report Number 82-1, MFMSSSG

1. On 12 July 1982, I assumed the chairmanship of the Military Field Medical Systems Standardization Steering Group (MFMSSSG) from Brigadier General Robert T. Cutting, MC, USA. On 19 July 1982, I met with the Surgeons General to discuss the progress made towards standardization of field medical systems. It was their consensus that the development of deployable medical facilities to provide care for our forces at risk holds the highest priority. It is my opinion that the essence of that meeting as well as DoDI 6430.1 mandates that the MFMSSSG take an aggressive role in ensuring maximum standardization of field medical systems. The proposed program objectives and milestones (POA&M) which have been included with this correspondence are appropriate for the task at hand. Approval of the POA&M is hereby requested by the members of the Defense Health Council and the Assistant Commandant of the Marine Corps. Unless otherwise directed in the interim, the proposed POA&M will be implemented.

2. The MFMSSSG Coordinating Staff has prepared the enclosed report which details the standardization efforts of the MFMSSSG over the past year. Although much of the preceding year has been devoted to the development of the process for standardization, there have been significant strides made in the standardization of high-cost items per se; such as shelters, power generation and distribution systems, vehicles, and some medical investment items. The task of standardizing the myriad of consumables, non-investment equipment, and the remainder of the investment equipment will be underway within the next 6 weeks. This effort will make extensive use of the Class VIII D-Day Significant Items listings being developed by the Defense Medical Materiel Board.

3. I am optimistic that during my tenure as chairman, this committee will provide the necessary coordination to effect the appropriate planning and procurement of field hospitals as programmed in the FY 1983 budget.

J. A. ZIMBLE
RADM MC USN

MEMORANDUM FOR THE ACTING ASSISTANT SECRETARY OF DEFENSE
(HEALTH AFFAIRS)

SUBJECT: Report Military Field Medical Systems Standardization Steering Group (82-1)

1. Standardization of Deployable Medical Systems by the subject group has followed a definite logical approach. This is, in summary, as follows:

   a. Identification of the Deployable Medical Systems from each Service.

   b. Comparison of the missions of each Deployable Medical Systems.

   c. Standardization on the shelter systems for each of the Deployable Medical Systems.

   d. Standardization on the power systems for each of the Deployable Medical Systems.

   e. Standardization on the medical equipment in each of the Deployable Medical Systems.

   f. Refinement of the process to accommodate for changes in the state-of-the-art in medical practice, mission changes, or breakthrough in Medical Technology.

2. Significant events and completed actions since February 1981 are as follows:

   a. Informal Quad-Service efforts in cooperation as the Military Medical Coordinating Group for Materiel Readiness.

   b. Formalized and chartered the Military Field Medical Systems Standardization Steering Group on 25 August 1981.

   c. Completed standardization efforts:

      (1) Combat Zone Shelter Systems (Enclosure 1)

      (2) Combat Zone Power Systems (Enclosure 2)

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(3) Medical Systems:

(a) Identification of common functional components (Enclosure 3).

(b) Initial look at major investment equipment with agreement in five of the most common functional components.

- operating room
- intensive care
- blood bank
- radiology
- admissions and sorting

(c) Identification of D-day significant medical materiel by multi-Service multi-disciplined task forces under the Defense Medical Materiel Board.

Federal Supply Class 6505 Drug, Chemical and Biologicals (Complete)
Federal Supply Class 6515 - Medical and Surgical Instruments
Equipment and Supplies almost complete

3. The Services have agreed to standardize their Deployable Medical Systems by functional components. Enclosure 4 is the proposed Program Objectives and Milestones for this effort, subject to the approval of the Surgeons General and the Assistant Commandant of the Marine Corps.

4. The process to continue standardization to accommodate for the changes noted in subparagraph 1f above is undergoing refinement to achieve the appropriate checks and balances.

5. Recommended areas impacting future standardization have been identified for further study (Enclosure 5).

J. A. ZIMBLE
RADM MC USN

Enclosures
a/s

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ELECTRICAL GENERATOR/ENVIRONMENTAL CONTROL SYSTEM

Item is a trailer-mounted military design -engine-driven generator set, power distribution center, environmental control units and lighting sets required to support combat zone hospital. It consists of the following major elements (See NOTE 1):

2 ea Power Unit, Electric, Trailer-mounted, AN/MJQ-XX, NSN 6115-01-[illegible]-XXXX. Each Power Unit consists of:

- 1 each Trailer, 5 Ton, XM979
- 1 each Generator Diesel, 100KW, 50/60 HZ, MEP 007B, NSN 6115-01-036-6374
- 1 each Load Bank, NSN 6115-00-463-9086
- 1 each Winterization Kit, Electric, Internal, NSN 6115-00-463-9084
- 1 each Winterization Kit, Fuel, Internal, NSN 6115-00-463-9002
- 1 each Auto Transfer Panel, NSN 6115-00-477-7932
- 5 each Cable Reel, 100' Mounting/Carrying Capacity, NSN 8130-00-711-0537
- 4 each Power Cable, 150 MCM, 100'
- 1 each Ground Cable, 6 AWG, 100'
- 4 each Power Cabme, 250 MCM, 25'
- 1 each Ground Cable, 6 AWG, 25'
- 1 each Auto Transfer Control Cable
- 1 each Fire Extinguisher, 10 Pound, Chemical
- 1 each Accessory Box, Including 2 sledge hammers, 3 piece ground kit, and 55 gallon auxiliary fuel drum adapter
- 1 each load interruper

1 each POWER DISTRIBUTION CENTER,
NSN 6110-01-121-7067 including:
16 each External Distribution Cable

7 each Environmental Control Units, 54,000 BTU Cooling/
36,000 BTU Heating, NSN 4120-00-483-2820

1 each INTERIOR ELECTRICAL SYSTEM, consisting of:
- 5 each Power Distribution Panel, Tent
- 26 each Light Set
- 52 each Outlet Set

NOTE 1: The Electrical Generator/Environmental Control System depicted above is capable of supporting 25-60 beds. For larger units, multiples of these components and other standard DOD generators/power units may be combined.

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FUNCTIONAL COMPONENTS FOR DEPLOYABLE MEDICAL SYSTEMS

1. Operating Room (Note 1)
2. Intensive Care
3. Laboratory
4. Blood Bank
5. Radiology (Note 2)
6. Admissions and Sorting
7. Ward (not ICU)
8. Central Sterilization
9. Cardiothoracic Surgery
10. Urology
11. Neurosurgery
12. Otorhinoloryngology (Note 3)
13. Maxillo Facial Surgery (Oral Surgery)
14. Burns (Note 4)
15. Podiatry
16. Dermatology
17. Internal Medicine
18. Optometry
19. Ophthomology
20. Psychiatry
21. Pharmacy
22. Preventive Medicine
23. Aviation Medicine
24. Dental (Prosthetic, Pero, Dental Xray)
25. Med repair
26. Resupply
27. GYN

NOTES:
1. Includes Orthopedic Surgery and Anesthesia
2. Includes Angiographic Capability
3. Includes Audiology
4. Includes Physical Therapy

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COMBAT ZONE HOSPITAL SHELTERS

	USMC MED CO.	USMC HOSP. CO.	USAF AIR TRANS. HOSP.	USAF 250 Bed CONTINGENCY HOSP.	USA MASH	USA CSH HOSP.	USA EVAC. HOSP.	USA FIELD HOSP.	USN FLEET HOSP. 250 Bed(COMBAT)	USN FLEET HOSP. 500 Bed(COMBAT)
JOCOTAS RIGID WALL SHELTERS										
Two Sides, Expandable 3:1 Shelter 8 x 8 x 20 ISO			X	X	X	X	X	X	X	X
One Side Expandable 2:1 Shelter 8 x 8 x 20 ISO			X	X	X	X	X	X	X	X
Rigid Wall Knockdown ISO Shelter 8 x 8 x 20 ISO	X	X								
General Purpose Shelter 8 x 8 x 20 ISO	X	X								
SOFT WALL SHELTERS										
TEMPER	1/	1/	X	X	X	X	X	X	X	X
Military General Purpose	X	X	X	X	X	X	X	X	X	X

1/ The M.C. is in the process of selecting a standard M.C. soft wall shelter. The TEMPER is being given serious consideration.

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COMBAT ZONE HOSPITAL POWER UNITS

	USMC MED CO.	USMC HOSP. CO.	USAF AIR TRANS. HOSP.	USAF 250 Bed CONTINGENCY HOSP.	USA MASH	USA CSH HOSP.	USA EVAC. HOSP.	USA FIELD HOSP.	USN FLEET HOSP. 250 Bed(COMBAT)	USN FLEET HOSP. 500 Bed(COMBAT)
Number of 100 KW Power Units	3 1/	5 1/	2	12	4	8	12	12	12	18
Total Power Required	300 KW	500 KW	200 KW	1200 KW	400 KW	800 KW	1200 KW	1200 KW	1200 KW	1800 KW

1/ Does not include emergency backup.

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PROGRAM OBJECTIVES AND MILESTONES FOR MEDICAL EQUIPMENT STANDARDIZATION IN DEPLOYABLE MEDICAL SYSTEMS

Jan 82	Equipment List Comparison of Comparable Hospitals.
Jun 82	Cost Comparison of Major Medical Material.
Jul 82	Identification of Mission Specific Descriptions
10 Aug 82	Prepare and promulgate mutually acceptable standard clinic policy for use as a baseline for the needs at each specific level of combat health service.
15 Aug 82	Develop uniform mission and guidance for specialty panels. This will mandate the proper recording of each mission specific variance and justification of each deployable medical system.
1 Sep 82	Form a quad-Service panel of professional and technical personnel who have combat experience and knowledge of doctrine, mission and associated level of care for each of the following functional components:
17 Sep 82	Standard OR and ICU.
1 Oct 82	Standard X-Ray, Darkroom and Radiology.
15 Oct 82	Standard Laboratory and Blood Bank.
29 Oct 82	Standard Admissions Sorting and Ward.
12 Nov 82	Standard Central Sterile and Thoracic Surgery.
26 Nov 82	Standard Urology and Neuro Surgery.
10 Nov 82	Standard Otorhinolaryngology and Maxillo Facial Surgery.
14 Jan 83	Standard Burns and Podiatry.
28 Jan 83	Standard Dermatology and Internal Medicine.
11 Feb 83	Standard Optometry and Opthalmology.
26 Feb 83	Standard Psychiatry and Preventive Medicine.
11 Mar 83	Standard Aviation Medicine and Dental.
26 Mar 83	Standard Medical Repair and Pharmacy.
15 Apr 83	Standard Resupply and Gynecology.
29 Apr 83	Results of above submitted to Military Field Medical Systems Standardization Steering Group.

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RECOMMENDED AREAS FOR FURTHER STUDY

Integrated automatic data processing systems and communication systems.

Acquisition of substitute items for materiel determined to be nonprocurable.

Mutually acceptable computer simulation models to standardize methods of predicting materiel requirements and changes in each Functional Component.

Procedures to avoid obsolescence of readiness related materiel.

Comparison of medical logistics doctrine, supply, maintenance, support service and transportation.

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That is from the chief Marine officer.

CHAMPUS. I have mentioned some of the cost pressures that have caused that budget overrun to take place. Our strategy, briefly, is to push to the ultimate those cost controls that are within our own administrative power, while trying to protect the entitlement for those who must rely on CHAMPUS, that recruiter in Des Moines, Iowa, who has CHAMPUS only and nothing else, no military hospitals around there.

Any growth in utilization we aim to absorb by tightening administrative controls, and through initiatives aimed at shifting care back into military facilities. Eliminating arbitrary cutbacks in CHAMPUS is essential to dispel the inequity between military families who can get their care virtually free at military hospitals, and those in remote areas who must depend on CHAMPUS alone. It is very significant.

I mentioned that we are trying to look at this as a system rather than look at the services and CHAMPUS in isolation. We are looking at the interactions, and my statement goes into some of the specifics as to what we are doing to return CHAMPUS workload to the direct care system.

I have asked the services to tighten their issuance of nonavailability statements, and have begun a process which could result in the elimination of CHAMPUS in-patient coverage in certain areas where our statistics show the direct care facilities have the capacity to absorb additional workloads.

The only exception to this would be emergency care or psychiatric care which the services do not have the facilities to provide, or circumstances dictate that it is impractical.

My final subject is quality assurance. A great deal of attention has been focused on the assessment and assurance of quality care found in the military health system. Recent newspaper and television reports about this subject have concerned me. Therefore, I conducted a review of our policies in accordance with our strategic planning effort.

First, I would say in general the quality of care provided in the Military Health System is equal to and at times surpasses that which is provided in the civilian community. Many excellent physicians are serving in this community and the military system probably gets more scrutiny than many civilian systems, because of the role of congressional oversight and so forth.

We would not want to rest on laurels and say that improvements are not needed. To be better prepared on our staff in these matters, I have established a new position of Director of Health Programs Evaluation and Quality Assurance, which you are aware of, and somebody is serving in that post.

During my review, one subject that came up, was that the military Services had not been sharing information with the national clearinghouse in Texas, the Federation of State Medical Boards, which is in contrast to the practice of the 50 States. Therefore, I have instituted a policy to inform the FSMB, and Mr. Carlucci signed a directive on that matter 29 July. A doctor who is cashiered by the Service will now be reported to this clearinghouse and the States can take appropriate licensing action, and you, me and our families won't have to worry about running into these individuals if we are in a place where they might be working.

This I think will enable us to fulfill our ethical obligation to the public. The Army has already had their notice in the 2 August Federal Register and I know the other services are getting their notices in, so these cases, as they come up, which they will in any human system, will start to flow down to Texas.

In conclusion, I pledge to work to assure that the Defense Health System will always provide the quality of medical care which I desire for my own family. Thank you, Mr. Chairman.

Mr. ADDABBO. Thank you very much, Mr. Secretary.

[The statement of Dr. Beary follows:]

Statement of John F. Beary, III, M.D.
Acting Assistant Secretary of Defense (Health Affairs)

Mr. Chairman and members of the subcommittee, I appreciate this opportunity to appear before you to discuss the health and medical activities of the Department of Defense. I will first briefly address the Fiscal Year 1983 budget request for health and medical programs and then discuss in more detail several areas of particular interest to us all.

I. BUDGET REQUEST

The Military Health Care System essentially consists of the medical resources of the Army, Navy, and Air Force, supplemented by the Civilian Health and Medical Program of the Uniformed Services or CHAMPUS. It is a global system of 161 hospitals and over 310 freestanding clinics, staffed by some 151,000 military and civilian health personnel. A budget of $6.7 billion is required in Fiscal Year 83 to operate the system, with approximately $4.5 billion going for the provision of direct health care, $1.1 billion for CHAMPUS, and another $1.1 billion for research, construction, and other ancillary areas.

It is a large system, Mr. Chairman, with sizeable budget and manpower requirements, and the need to effectively manage it on a system-wide or global basis is apparent particularly in light of the fact that the costs of providing health care are rising far more rapidly than any other segment of our economy.

II. HOSPITAL COST TRENDS

The Consumer Price Index for all-items is projected to rise this Fiscal Year at an annualized rate of only 6-7 percent. However, the hospital room portion of the Index is projected to rise nearly 18 percent.

This growth has a tremendous effect on CHAMPUS costs in that hospital costs account for 65 percent of the CHAMPUS budget. It also affects the direct care system in that labor, equipment, and supply costs account for a good portion of the increased costs.

In DoD, the inpatient cost per occupied bed day rose 18 percent from Fiscal Year 1981. The increase experienced by CHAMPUS was about the same, although inpatient cost increases only partially explain the growth CHAMPUS has seen this year.

III. MEDICAL READINESS

I would now like to present a rather lengthy but thorough report on the status of Medical Readiness which remains our most critical issue. The grim situation described in testimony before this committee last year still persists. The brutal fact, is if we committed our forces in Europe, Korea, or South-West Asia today, we could not provide the initial surgery needed to assure the survival of 90 percent of our wounded, much less the care required to assure their fully functional recovery. When they become available, the deployable facilities funded in FY 1982 and budgeted this year will be the first step toward recovery of an adequate wartime medical support capability.

Two initiatives bear special mention. First, the Army has loaned the Navy a 1,000-bed rapidly deployable hospital capability to provide interim support for the Marine Corps units in the Rapid Deployment Joint Task Force.

The Rapidly Deployable Medical Facilities (RDMF) will be prepositioned aboard the SS Gulf Trader at Diego Garcia later this year. They will remain there until they can be replaced by the 1,000 Marine Corps hospital company beds for which the conference committee approved funding this year. The Navy now plans to maintain the RDMF capability in the future as an integral part of the medical support for the RDJTF.

Second, the Air Force hospitals funded in FY 1982 will become available for RDJTF support in 1984. These initiatives, while far from trivial, will provide the only substantive improvement in our field medical support capabilities before 1985/6.

Reasons For Shortfalls

Although shortfalls in wartime medical support are well-established, it is less widely recognized that they are growing. The increases arise from three sources: Increases in the size of the forces we can quickly deploy, which increases the potential population at risk in the combat theater; increases in the conventional firepower of our potential adversaries and thus in their ability to inflict casualties; and the ability of our potential enemies to inflict new kinds of casualties on the modern battlefield -- casualties caused by laser damage to the eye, for example, or by mycotoxins.

The task before us is not simply to replace withered medical stockpiles or to restore the capability to meet the threats of the 60s and 70s, but to acquire the medical resources to support our forces on the future battlefield.

Medical Intelligence

Accurate medical intelligence is critical for assessing future requirements. During this past year the Department of Defense has, in response to the concerns articulated in the Conference Report on the FY 1982 Defense Appropriations Act, taken steps to intensify the focus of its medical intelligence activities. As Deputy Secretary Carlucci stated in his letter to the Chairman of the concerned congressional committees (a copy of which I have provided for the record), the United States Army Medical Intelligence and Information Agency (USAMIIA) will be exclusively concerned with medical intelligence. USAMIIA will be re-established as the Armed Forces Medical Intelligence Agency (AFMIA) where all DoD medical intelligence activities will be consolidated. Although the AFMIA has not been established as a component of the Defense Intelligence Agency (DIA), as the Conference Report recommended, it is tasked through the DIA. Staff members from this subcommittee and the Defense Subcommittee of the Senate Appropriations Committee have been very helpful in defining the new organizational relationships among the AFMIA and the medical and intelligence communities within which AFMIA must function.

Constructive Scrutiny

In a broader context, I would like to take this opportunity to express my appreciation for the scrutiny which you and the subcommittee staff have given our programs for wartime medical support. The objective assessments and constructive criticisms by the committee, the staff, and the GAO have been instrumental in improving our programs. As a result, current programs will provide a greater and far better organized and standardized medical capability than was previously thought possible.

Readiness Initiatives

Let me now turn to a discussion of the medical readiness initiatives currently in progress. The Surgeons General will discuss the details of their programs, so I will confine my comments to those issues that cut across service lines, that have been raised as concerns by this subcommittee, or both.

Rapidly Deployable Medical Facilities (RDMF)

The Army loan of the RDMF to the Navy, which I mentioned earlier, is an outstanding example of inter-Service cooperation. It would have been sorely hindered, however, had the Conference Committee not taken the initiative of providing $25 M to the Marine Corps to purchase a replacement for it, thereby assuring the Army of the eventual return of its assets. Likewise, your approval of the reprogramming of the funds for afloat prepositioning of the RDMF has been critical to the success of this effort.

Hospital Ship

Acquisiton of a 2,000-bed, 24-operating room hospital ship capability continues to be the most critical step in assembling medical support for the RDJTF. As noted in testimony last year, the requirement for hospital ships has been universally recognized. This year there is a provision in the President's budget for $300 M to acquire the first increment of this desperately needed capability. These funds will purchase the first of two converted hospital ships from the maritime industry. The final contract for conversion-and-purchase will be awarded in December of this year, and the first ship will become available sometime in 1986. I am assured by the Navy that this critical program is proceeding expeditiously and that the semi-finalist proposals in the contract award competition are highly promising.

Deployable Hospitals

The Fiscal Year 1983 budget you now have before you requests funding for a vital increase in our shore-based deployable hospital capability. The Navy budget contains a total of $75 million which will procure part of the newly redesigned medical support needed by the Navy and Marine Corps components of the RDJTF. This will provide all the medical and combat service support equipment required to operate 1,500 beds for resuscitative and stabilization care.

In addition, the DoD budget requests approximately $175 million to procure Air Force and Army deployable medical systems, including 7,180 hospital beds in Europe and the Pacific, and 500 beds for the Air Force component of the RDJTF. The budget will procure 11.8 percent of the total beds needed for the RDJTF and 5.5 percent of those needed for Europe. I can assure you that, through our new standardization process, this procurement program will be fully coordinated among the Services and OASD(HA).

In the past there has been little inter-Service coordination in the development of field medical systems; however, this will no longer be the case. I would like to insert for the record a recent Department of Defense Instruction governing the standardization of field medical systems. This instruction requires the Services to procure only those systems developed under the direction of the Military Field Medical Systems Standardization Steering Group and approved by the ASD(HA). The Steering Group has the responsibility for directing the development of field medical systems to achieve maximum standardization consistent with the distinct Service missions, patient workload differences, and battlefield locations.

Only DoD standard shelters and power generation/environmental control systems will be used in all field medical systems. To ensure integrated logistical support for these components, each medical service will employ the same standard shelter and power generation/environmental control systems used by the line elements of the parent Service. If the parent Service has no "common" standardized shelter or power generation/environmental control systems, then that medical service will employ the same system(s) used by the other military medical services. To date, the Steering Group has already effected standardization of power generation/environmental control systems and shelters for deployable hospitals.

At this time, I would like to insert for the record a progress report by the Steering Group describing the standardization process and the milestones for achieving standardization. The report also contains the group's accomplishments to date. While the degree of development may be argued, significant progress has been made and even more will be evident in the coming months.

Let me now turn to some of the concerns recently raised by the GAO which documented the cost differences of the Services' communication zone hospitals. These differences are real and derive from two fundamental differences between the Services. The first is that the Services' operational mission requirements and doctrinal employment are different. Because of this, the Services differ in organization and the way various elements of support are provided. These differences account for certain base support costs being included in one Service's hospital cost estimates, but not in another. Transportation is a good base support example. It is not required in most Army, Air Force, or Marine Corps hospital units. This function is provided by other support elements of these Services and, therefore, their hospital cost estimates do not reflect transportation service costs. On the other hand, Navy hospital costs do reflect transportation services. The Navy has no separate transportation support element. Therefore, if they are to have this necessary service, it must be included in the hospital unit. This, to me, is not an issue, but a fact of life.

A second fundamental difference is that the Services have used slightly different assumptions in developing the medical equipment for their deployable medical systems. I anticipate that the on-going efforts of joint standardization will resolve this issue in coming months.

Another concern raised by the GAO is the lack of total program cost estimates. It is true that the Services do not have cost estimates for their entire programs. However, what is unknown are only those functions currently being requested under Host-Nation Support Agreements. Host-Nation Support can provide tremendous savings and the Services have been directed to use it wherever possible. When our allies respond to our requests, detailing what they can and cannot provide, the Services will then be in a position to cost out the remainder of their programs.

Host-Nation Support

We are working to reduce a portion of our shortfalls through host-nation support agreements. We have experienced some success, particularly in the NATO Alliance countries. Support from our allies is important and considered in our planning process; however, I must stress the assistance offered to date has minimal impact on overall requirements. We will continue negotiations with our allies to increase host-nation medical support to reduce our shortfalls in Europe and in the Pacific.

CMCHS

I am pleased to report significant improvement in wartime medical support in the continental United States. With the outstanding, voluntary cooperation of the civilian medical community, the Civilian-Military Contingency Hospital System has been implemented in 39 areas. As of August 1st, over 530 civilian hospitals have agreed to commit more than 44,300 beds to this program. By the end of this year, the remaining 9 program areas will be implemented and an operational system will be in place. In addition, the involvement of the Veterans Administration in the contingency hospital system was authorized with the passage of the Veterans Administration and Department of Defense Health Resources Sharing and Emergency Operations Act, Public Law 97-174. We are working with VA officials to complete plans in 1983 for the use of VA medical centers during contingencies.

Within the Department of Defense we are developing a policy on the sizing of the CONUS medical system. This policy will emphasize the readiness mission of the military health care system while still recognizing its peacetime mission. The result will be a military health system prepared to support contingencies while providing cost-efficient peacetime care.

These initiatives will continue to improve our medical readiness capabilities, but we recognize that the effective use of these resources is critical to providing quality medical care. Accordingly, we are working with the Joint Chiefs of Staff and the Military Departments to integrate these resources into detailed plans for the medical evacuation and treatment of military casualties being returned to the United States.

While our medical planning deals primarily with contingency situations, the integration of military, VA, and civilian resources has major peacetime benefits. The United States does not have a national emergency medical care system to respond to major peacetime medical emergencies. Working through the Principal Working Group on Health of the Emergency Mobilization Preparedness Board, our medical planners are developing procedures to permit the CMCHS to respond to peacetime disasters as well as military contingencies.

Consumable Supplies

Another area I would like to cover is wartime medical consumable supplies. If we were to go to war today, the Services would require a tremendous amount of medical consumable supplies. How effective DoD or the Nation would be in meeting these demands is questionable.

This is especially true in the case of drugs because the financial burdens of limited shelf life has forced both DoD and private industry to maintain low levels of inventory. A recent Defense Audit Service report highlighted this issue. The report concluded that DoD and the industrial base could not meet the Services' drug requirements until we were well into a conflict. The report also raised doubts as to the validity of the Services' requirements.

The Services have programmed funds to procure and maintain Prepositioned War Reserve Stocks of consumable medical supplies and, in the past year, much concern and attention has been focused on associated issues. Many actions have been contemplated to resolve these problems, but none can proceed until our resource problems are quantitatively justified.

The central issue is the determination of our wartime medical consumable requirements and ensuring their validity. Health Affairs has supported a tri-Service effort to develop a common methodology for computing wartime medical consumable supply requirements for both the theater and CONUS . The U.S. Army Academy of Health Sciences is leading this effort which will be completed early in 1983. By this time next year, we should be in a better position to evaluate corrective actions to minimize resource expenditures while still maintaining a sufficient level of readiness.

Manpower

Deployable hospitals and hospital ships will not ensure medical readiness if we do not have the personnel to staff them. Today, we have well-documented shortages both in total numbers of medical personnel and in critical wartime medical specialties.

I would like to highlight the extent of the shortages by using physicians as an example. We currently project a wartime requirement for 26,712 physicians; however, only 15,403 physicians are available in the Total Force. We are faced with a shortage of 11,309 physicians -- 42 percent of the wartime requirement.

The shortage of surgical specialists is even more critical. Current estimates project a wartime requirement for 7,018 surgical specialists while only 2,229 are available in the Total Force. The shortage of 4,789 reserve surgeons and insufficient deployable operating rooms during a NATO scenario translate to only 1 out of 10 wounded soldiers receiving initial surgery in the theater. An inadequate surgical capability is a "war stopper" -- driving up the requirement for trained personnel replacements to offset the increases in morbidity and mortality while driving down the morale of our combat forces -- conditions abhorrent to any line commander.

Reserve Forces Initiatives

Two-thirds of our surgical capability during a full mobilization resides in manpower resources other than active duty. Since combat medicine is a surgically intense activity and the peacetime military health care system cannot productively employ the number of surgeons required by a wartime scenario, we place primary reliance upon the Reserve Components to provide the requisite capability.

I would like to use this opportunity to tell you what we are doing to increase physician staffing in the Reserve Components.

Last July, the Honorable Edward J. Philbin, Deputy Assistant Secretary of Defense for Reserve Affairs, and I established the Reserve Components Medical Council. The Council serves two purposes:

1. To give senior National Guard and Reserve physicians a forum within the Office of the Secretary of Defense to focus attention on pertinent health care issues impairing medical readiness in the Reserve Forces.
2. To assist in the resolution of issues by proposing policy alternatives.

On October 1 last year, I also added a Director of Reserve Forces Medical Planning on my staff to coordinate the Council's activities and to develop policy initiatives for the enhancement of medical readiness in the Reserve Forces.

Policies recommended by the Council and subsequently placed into effect are:

The accelerated appointment of health service officers within 30 days after submitting a complete application.

The placement of reserve physicians in medical universities and schools -- a program we call PRIMUS. The first program was inaugurated at the Georgetown University Medical Center on July 12. PRIMUS takes into consideration the facts that physicians are fully trained when they enter the Reserves and that physicians maintain their proficiency as a by-product of their medical practice. PRIMUS allows training, pay, and retirement credits for this "proficiency training."

On April 15, I asked the Assistant Secretaries for Manpower and Reserve Affairs of the Military Departments to provide physicians more flexibility while participating in Reserve medical training. Realizing we are in a "buyer's market" for physicians, the concept underlying this policy is to create Reserve medical training opportunities that are more responsive to the lifestyles of surgical specialists -- lifestyles enforced by 80-hour work weeks, leaving little time to participate in Reserve activities.

Since Reserve surgeons have no capability to practice their wartime skills in an armory during week-end training, it is logical to offer them other opportunities for "hands-on" proficiency training. To realize this objective, I have encouraged the Assistant Secretaries for Manpower and Reserve Affairs of the Military Departments to give reserve credit to surgeons for the operations they perform during their regular work week, attendance at continuing medical education courses, and other reasonable training experience. If, in the future, we are ever faced with a glut of applicants for surgical positions in the Reserve Forces, training requirements can be reassessed.

We have submitted three legislative proposals to the Congress to enhance the recruitment and retention of certain health service officers:

DoD 97-47 initially was submitted on May 6, 1981, to standardize the initial appointment of Reserve physicians in the pay grade of 0-3 (Captain/Lieutenant) when they have at least four years of constructive service credit. It was later withdrawn assuming that the change was included in DOPMA. Since it was not covered in DOPMA, it is now being resubmitted.

DoD 97-49 was submitted to the Congress on April 24, 1981, to enable the National Guard to appoint non-citizen physicians and dentists. Current legislation under Title 32, United States Code, requires physicians and dentists to be citizens before appointment in the National Guard.

DoD 97-51 was submitted on May 22, 1981, to amend Title 10 to authorize the President to effect the original appointment of physicians as commissioned officers up to the grade of 0-5 (Lieutenant Colonel/Commander) without the necessity for Senate confirmation.

Also under consideration are monetary inducements and an amendment to the Armed Forces Health Professions Scholarship Program to permit medical students to repay a portion of their obligation while serving in the National Guard and Reserve.

While these may appear to be minor proposals, their enactment will greatly improve the ability of the Military Departments to recruit and retain physicians and dentists in the Reserve Forces.

The Office of the Secretary of Defense and the Services have taken several actions to improve the management of the Individual Ready Reserve and the Retired Reserve; for example, certain retirees have been pre-assigned to fill mobilization requirements. However, in spite of on-going initiatives both to increase the size of the Reserve pools and to increase the yields, the quantity and quality of the medical pesonnel who will report upon mobilization remains uncertain.

We are currently undertaking a study to develop a consistent and systematic method to estimate the time-phased rates at which reserve medical personnel can be expected to report for duty during mobilization.

Pre-Contracting

The General Accounting Office Report to the Congress, "Will There Be Enough Trained Medical Personnel in Case of War?", June 24, 1981, recommended that the Secretary of Defense obtain advance agreements with civilian medical personnel to fill key hospital shortages in the Untied States. We have formed a tri-Service working group to develop the Request for Proposals for contractors to demonstrate the effectiveness of the concept. If the demonstration is successful, we will implement the pre-contracting recommendation by including instructions to the Services in the FY 1985-1989 Defense Guidance.

Induction Legislation

We are progressing in the development of proposed legislation for a Health Personnel Mobilization Act. The proposal will recommend an amendment to the Military Selective Service Act to authorize the induction of certain personnel in the health occupations. We are working with the President's Emergency Mobilization Preparedness Board and professional health organizations, such as the American Medical Association, to ensure a fully coordinated proposal. We hope to submit the legislation to the Congress in 1983.

Summary

I would like to conclude this portion of my testimony with a few words on the real significance of medical readiness. I cannot possibly put it better than has the Commandant of the Marine Corps. In a recent letter to Senator Denton, General Barrow wrote of two disconcerting thoughts. I quote:

> "One relates directly to the fact that as we discuss every facet of this issue none of us has any assurance as to just how much time we have before we must fight. A horrifying picture kept coming to mind -- while we debated the merits of this system or that program -- soldiers, sailors, airmen and Marines were dying because

> we had not provided them with proper combat casualty care. That fate demands that we have medical capabilities in the combat zone in sufficient quantities to absorb the anticipated casualty flow. Right now, and as a Marine, I must focus on being ready today. We do not have the requisite number of facilities, be it operating rooms or beds, to meet the projected casualty flows under the most optimistic circumstances. I am not prepared to say that the hospital ships and the fleet hospitals are the last word in medical care -- I am prepared to say that without them American fighting men will die unnecessarily.
>
> "The second thought is triggered by the image of the wounded lying waiting for treatment. I have said time and time again the best war is the one that we did not have to fight. Where the enemy perceives us as being so strong and prepared he may not be willing to try us on for size. In other words he is deterred by his own perception of our capabilities. I am confident that hospital ships and fleet hospitals in their own way can do as much to foster deterrence as do other higher visibility weapons systems. Our perceptible commitment to providing treatment and care for the wounded among those who do the fighting is tangible evidence to friend and foe of our willingness to give combat in the first place. Most importantly, all Americans can be assured that if we commit our men to combat they will be provided the absolute optimum care that is demanded. Hospital ships and fleet hospitals demonstrate that commitment."

What General Barrow said specifically of Navy and Marine Corps programs clearly applies to all the Services. It is for this reason that I urge you to fund the deployable hospital systems in the President's 1983 budget. In so doing, I hope you will continue your vigilance over the quality and cost-effectiveness of those programs. Clearly, we cannot expend funds to procure any deployable hospital system that fails to meet the most rigorous requirements for standardization and cost-effectiveness. Once those standards are met, however, we cannot in good conscience delay procuring the medical capabilities that may all-too-suddenly be needed to care for our wounded servicemen.

IV. CHAMPUS

Our CHAMPUS request for Fiscal Year 1983 reflects a commitment to the CHAMPUS mission to supplement the direct care system while recognizing the absolute urgency of containing costs. There are tremendous spirals in health care costs with which CHAMPUS and all third-party health plans are grappling. CHAMPUS is a relatively small program in the health care community and, as such, has little leverage over the overall trends. So our strategy is to push to the ultimate those cost controls within our power while preserving the entitlement for those who must rely on CHAMPUS.

This Subcommittee is well aware that CHAMPUS has experienced unprecedented growth both in costs and utilization over original FY 82 projections. This necessitated a reprogramming request of $100 million. As discussed in last month's hearing on our reprogramming request, if this cost growth continues through FY 1983 at the current rate of 16-18 percent, we estimate that the budget request will be some $160 million short. Any growth in utilization we aim to absorb by tightening administrative controls and through initiatives aimed at shifting this care back into military facilities.

Avoiding arbitrary cutbacks in CHAMPUS is essential. The inequity between military families who can get their care virtually free at military hospitals and those in remote areas who must depend upon CHAMPUS is already significant. Increasing beneficiaries' medical costs or weakening CHAMPUS benefits will only further penalize service members for their duty assignments. We are looking at ways to eliminate the disparity, not make it greater.

In addition to tightening our ongoing administrative controls, CHAMPUS is pursuing alternatives that may be more cost effective to our traditional way of doing business. The Health Maintenance Organization Demonstration Project, or "CHAMPUS CHOICE," portends a redefinition of the very structure of the CHAMPUS. CHAMPUS CHOICE has been operating in Portland, Oregon, since September 1981, and in Minneapolis since June. We are exploring broader applications of the HMO test as we determine future sites. For example, we are considering a demonstration on a state-wide basis in Arizona. Although the final results of CHAMPUS CHOICE will not be available until 1986, we are confident that prepaid health plans are a viable way to offer another option of quality care at lower costs to beneficiaries and the Government. Electronic or "paperless" claims processing is another alternative we are testing to determine the possible savings in processing and development.

Finally I must point out two powerful arguments for the strategy I have outlined. First, the national priority for a strong defense has brought forth a call for comparability in military compensation. It looks like the military pay raise for 1983 envisioned last year will be capped. To retrench on medical entitlements at the same time will clearly undermine our national goal. And secondly, over the past two years CHAMPUS has travelled far from a program once hamstrung by red tape and from the notorious days of "too little, too late." The first task back then was to get the program functioning to simply deliver the benefits entitled to service families. During this time we also introduced new systems to manage costs. Many of these systems are just now coming to maturity. And we are committed to intensifying our efforts in cost containment even further. But we must guard against arbitrary cuts in CHAMPUS that would be clearly seen by our fighting force as an erosion of their benefits. We all have something to gain from a healthy CHAMPUS program.

VI. MEDICAL RESEARCH

In recent years, Defense medical research and development has received considerable attention from this subcommittee. I would like to bring you up to date on current management activities in this area.

The Armed Services Biomedical Research Evaluation and Management (ASBREM) Committee, established as a result of the Committee's FY 81 guidance, has been organized under the leadership of the Commanders of the Army and Navy Medical R&D Commands and the Air Force Aerospace Medical Division. ASBREM has begun the process of reviewing and coordinating Service medical R&D programs. As one of their first tasks they are reviewing Service combat casualty care programs. They have identified several projects for closer inter-Service integration, and have directed some changes in project orientation based on their review thus far.

Last year the Committee gave us specific guidance concerning the consolidation of Army and Navy infectious disease and combat dental research and development. As a result, the Under Secretary of Defense for Research and Engineering has designated the Army as lead Service. The Army has developed a plan to assume overall program management in these areas beginning in FY 83. Navy labs and Navy personnel will continue to participate in these research efforts, under Army management guidance. Funds for the support of these research efforts have been reprogrammed from the Navy to the Army beginning in FY 83.

V. NATURE OF THE SYSTEM

Mr. Chairman, I firmly believe there is a need to increase awareness regarding the nature of the Military Health Care System. It must be viewed as one system, not three separate systems supplemented by CHAMPUS. CHAMPUS utilization shifts can often be tied directly to resource shifts in the direct care system.

While we cannot control cost growth due to inflation, I feel we can and must take immediate steps to deal with the increase in utilization. At the same time we do not wish to decrease beneficiary satisfaction as we feel this is an important military retention benefit. I have, therefore, taken several steps to return CHAMPUS workload to the direct care system.

I have asked the Services to tighten their issuance of nonavailability statements and have begun a process which could result in the elimination of CHAMPUS inpatient coverage in certain areas where our statistics show the direct care facilities have the capacity to absorb additional workloads. The only exceptions to this would be emergency care and psychiatric care which the Services do not have facilities to provide.

I believe these actions, along with other cost reduction initiatives I am putting in place, such as the newly established Cost Containment position I have in my office, will not only correct the current problems but help to prevent problems in future years.

VII. QUALITY ASSURANCE

Finally, I would like to address the issue of quality assurance. A great deal of attention has been focused on the assessment and assurance of the quality of care found in the Military Health Care System. Recent newspaper and television reports about this subject have concerned me. Therefore I conducted a review of our policies and procedures in this area in accord with our strategic planning effort.

First, I must say that in general, the quality of care provided in the Military Health Care System is equal to and at times surpasses that which is provided in the civilian community. To say otherwise would do great disservice to the thousands of men and women who make up that system and the nine million beneficiaries it serves. This is not to say that improvements are not needed.

Before many of these stories gained national attention, I recognized the need for policy clarification and emphasis in this area and established a new staff position of Director for Health Programs Evaluation and Quality Assurance. We have just selected an individual with an extensive and varied background in the field, Ms. Diane Bolay.

A. Credentialing Committees

My staff and I reviewed the credentialing policies of the three Services. They are in accord with the Joint Commission on the Accreditation of Hospitals (JCAH) standards and similar to practices followed in the civilian community. My conclusion is that if the service credentialing committee regulations are followed, one can detect and discipline incompetent health care providers.

B. National Clearinghouse

In the course of my quality assurance review, I became aware of a needed improvement. The medical services do not share information with the National Clearinghouse in Texas (The Federation of State Medical Boards (FSMB)) in contrast to the practice of the 50 states.

Therefore, I have instituted a policy to inform appropriate professional regulating bodies (such as FSMB) as to the identity of medical officers whose employment is terminated under circumstances in which their credentials were suspended, limited or withdrawn at the time of their separation. In any case of limitation of credentials, a review by the responsible command authority will be conducted to determine whether the medical officer involved should be considered for separation from the Service. Further, when a medical officer is ordered to practice in or to receive medical training in a military or civilian facility other than that at which his or her credentials file is maintained, the gaining facility will be fully informed of the officer's qualifications, including disclosure of limitation or withdrawal of privileges.

The Secretaries of the Military Departments are responsible to ensure that these policies are carried out. I feel certain that if the new and existing policies are followed, the traditional high standards of military medical care will be maintained.

In conclusion, I pledge to work to assure that the Defense Health System will always provide the quality of medical care which I desire for my own family.

Thank you, Mr. Chairman. I will be happy to answer any questions you may have.

Mr. Addabbo. The Services each have submitted statements which the committee and staff have examined and will be made part of the record. Most of the statements will be covered in our questions. During this time we will go directly to the questions.

[The statements of General Chesney, General Mittemeyer, and Admiral Cox follow:]

Statement of Lt.General BernhardT. Mittemeyer, Surgeon General, United States Army

Mr. Chairman and Members of the Committee, I am Lieutenant General Bernhard T. Mittemeyer, The Surgeon General, Department of the Army. It is my privilege to be here today. As the new Surgeon General, I would like to state my goals for the Army Medical Department and elicit your support in promoting them, as well as discussing some of our accomplishments. You have been of assistance to the Army Medical Department in the past and I look forward to continue working with you in the future.

INTRODUCTION

The principal mission of the Army Medical Department (AMEDD) is to assure a physically and mentally fit military force and insure an adequate reservoir of competent, highly trained health care professionals and technicians to support contingencies, mobilization and combat operations. The Army Medical Department has made significant progress towards medical readiness and improved peacetime health care during the last year. I am pleased to have the opportunity to highlight some of the activities that have occurred.

My goals for the Army Medical Department are intended to insure the continued emphasis from my predecessor in the areas of medical readiness and clinical excellence. First and foremost, I want the Army Medical Department to be prepared for war. This includes selected reorganization of units, resolution of personnel shortages/imbalances and the modernization and replacement of equipment. Second, I want to continue to enhance the quality and image of Army medicine. This includes improving the quality and professionalism of physicians, pursuing a positive program to improve the images of Army medicine, and insuring that health service facilities meet accreditation and life safety standards. Third, I want to improve the quality and quantity of our professional/ancillary support. Finally, in order to support the goal of a totally fit Army, I will strive to improve health education and assist in developing new physical training standards.

MANNING

PHYSICIANS

I am pleased to report that our active duty physician shortage is being alleviated as we continue on course with programs and initiatives that promise to resolve this problem. Active duty physician strength showed sustained improvement, with a strength of 4909 at the end of FY 81, an increase of 284 over FY 80 levels. FY 83 end strength is projected at 5054, which represents a shortfall of 402 for the Army's peacetime objective of 5456 physicians. This 5456 objective is a slight increase (183) over the previous objective of 5273 and relates to an increase in overall Army force levels now programmed for FY 87.

In addition to the overall shortage of physicians, individual medical specialty shortages also exist. These shortages are primarily in the surgical specialties -- general surgery, orthopedic surgery, neurosurgery, etc -- and are being effectively managed through the Army's Graduate Medical Education (GME) Programs. These programs tailor training to satisfy our medical specialty requirements while at the same time providing a significant recruitment and retention incentive. In fact, the retention rate for first term physicians continues to exceed 30 percent, due primarily to the GME programs. Continuation of this trend will provide adequate input into the career force. The Army's primary source of physicians continues to be the Health Professions Scholarship Program, with the other major source being provided by volunteers. A small number is also provided by the Uniformed Sciences University of Health Sciences (USUHS) program. Although the output from USUHS is not large, it is expected to form a sizeable portion of a career stable Medical Corps for the future.

In the Reserve Components, physician strength has begun to improve but major shortages still exist. Since realignment of the Reserve recruiting mission in 1979 and establishment of a nationwide Reserve recruiting network, much progress has been made. Reserve Component physician strength improved by 200 from FY 80 to FY 81, and by FY 83 the shortfall is projected to decrease from the current level of 3915 to 3653.

With respect to use of civilian physicians, the requirement exists for more flexibility in paying for contract services and contract surgeons. A Department of Defense proposal to amend Titles 10 and 37 US Code has been sent to Congress for consideration. The legislation would increase the permissible maximum salary of a contract surgeon from the current non-competitive maximum of an O-3 over 4 years service ($26,140.00) to the basic pay of a commissioned officer in pay grade of O-6 with over 26 years of service ($46,188.00). It would also give the military departments the authority to use personal service contracts for various types of scarce health services when economically justified or meet critical needs in times of emergencies or shortages.

NURSES

Army Nurse Corps active duty strength at the end of FY 81 was 3833 and projected at 3891 for end FY 83, with programmed increases in the outyears. Reserve Component nurse strength increased by 943 for an FY 81 end strength of 5639 and is projected to be 6263 for end FY 83. However, a 10,613 shortfall in the Reserves will still exist at that point.

OTHER

The shortage of Army optometrists and clinical psychologists experienced over the past few years has been largely overcome through the use of the Health Professions Scholarship Program (HPSP). However, with the direction to restrict the HPSP program to physicians only, it is very likely that after the current HPSP enrollment of optometry and clinical psychology students enter active duty, the Army will experience similar shortages again.

MEDICAL SUPPORT PERSONNEL

Adequate levels of support personnel are necessary to an efficient and effective health care system, since a shortage of support personnel requires physicians to spend time performing non-physician duties. Our levels of medical support personnel are not proportionately increasing as active duty physician strength continues to improve. Although there has been some increase in the numbers of medical support personnel over the past two years, the ratio of support personnel to physicians is declining. We are attempting to resolve this through the programming of additional medical support resources to allow the physicians maximum and gainful occupation of their skills.

PHYSICIAN ASSISTANTS

The Army Medical Department is committed to continued utilization of physicians assistants. These valuable members of the Army health care team are a very practical, cost-effective and valuable health care asset for the provision of first echelon medical care to active duty soldiers in maneuver units and the deployed setting. Most recently, we have begun special training of a small number of experienced physician assistants for use in selected specialty clinics to maximize the efficiency of shortage physician specialists. Under current utilization policies, there are now requirements for 536 physician assistants in the Army Medical Department and we expect to have 445 fully trained by the end of FY 83.

VETERINARIANS

As DoD Executive Agent for Veterinary Services, I would like to report on our progress in the consolidation of veterinary functions. The Air Force Veterinary Service was disestablished on 1 April 1980, at which time the Army began to assume phased responsibility for those services formerly provided by the Air Force. We have assumed responsibility for 50 percent of non-Army research authorizations. Air Force military working dog care and animal disease prevention and control programs have been transferred to the Army at 51 Air Force bases. By the beginning of FY 83, we will have assumed responsibility for all Defense Logistics Agency Activities, as well as for 24 Marine Corps and Navy installations both in CONUS and overseas. I can assure you that the consolidation of the Army and Air Force Veterinary Services is progressing as directed.

The Army-developed Food Inspection Technician Warrant Officer Program has been implemented. The first increment of warrant officers have been trained and are now on active duty. Another 23 will be trained this year. The remaining 20 will be selected, trained and assigned to duty locations by FY 83. The warrant officer will be utilized as the supervisor of non-commissioned officers and enlisted personnel involved in food inspection. The veterinary officer will insure food wholesomeness through consultation with those performing food inspections. I must continue to rely upon the knowledge and expertise of military veterinarians, as did my predecessor, in those instances where their unique skills are required to assure the wholesomeness of food as it affects the health of the troops.

TRAINING

Training provides the capability for the Army Medical Department to fulfill its primary mission of being able to support mobilization and combat operations as well as to operate our health care system during peacetime. In addition, training is the key to recruitment and retention, since without good training, a soldier is bored. We have made significant accomplishments in training and plan to refine and expand our program through FY 83 in order to better support our mission.

COMBAT CASUALTY CARE COURSE

The Combat Casualty Care Course is a recent initiative that continues to improve and expand. The purpose of the course is to prepare entry-level military physicians of all services to care for individual combat casualties on the battlefield, as well as to provide them other skills and knowledge necessary to function in a combat environment. In FY 83, the frequency of this course will increase to 20 from the 10 courses given in FY 82. There will be 120 students in each class in FY 83.

I have recently approved the Emergency War Surgery Training Program (EWSTP) to bridge the training shortfall heretofore unfilled by the Combat Casualty Care Course and our Advanced Trauma Life Support Course. This program will allow physicians and physician extenders who have not attended the Combat Casualty Care Course to undergo a short training program on surgical techniques enabling them to better function under combat or mass casualty situations. The course will be available to physicians, dentists, veterinarians and physician assistants. The program has already been implemented in Europe and is being developed for implementation in other locations.

FIELD EXERCISES

Tactical medical units, both Active and Reserve, continually participate with the Army in field training exercises to enhance their readiness. Units in Germany participate in exercises to improve interoperability among allied forces. In addition, we continue to emphasize the policy of providing annual field training with local tactical units to our personnel in fixed facilities.

MEDICAL SPECIALIST

The Army's Division 86 Study demonstrated that enlisted medical specialists require additional combat management skills. Accordingly, I have lengthened the Basic Medical Specialist Course from 6 to 10 weeks to add training in the management of combat trauma and shock. A new advanced course is also being established to provide career level medical specialists with advanced skills in emergency medicine, ambulatory care and medical administration.

MEDICAL CENTERS

Medical centers continue to fulfill an important role in providing medical contingency/mobilization training. This is of particular importance in view of the fact that medical centers are the major source of professional personnel in support of mobilization and special missions.

COMMUNICATION SATELLITES

Our installation hospitals are currently connected through satellite educational television to Brooke Army Medical Center in San Antonio, Texas. This arrangement allows professional education and training to be disseminated on a daily basis. Our long-term plan is to use such networks to provide timely, interactive medical training. Ultimately, we hope to be able to provide diagnostic and consultative resources directly from the medical facilities to the battlefield.

MODERNIZATION

CONVERSION/ACTIVATION OF FIELD UNITS

In order to provide a more flexible, responsive medical care system to the combat soldier, we have undertaken an extensive conversion program of our tactical hospital system. Paramount in this program is the introduction of an updated version of the Mobile Army Surgical Hospital (MASH). This unit, redesigned as a small highly mobile hospital, has the capability to provide emergency resuscitative surgery on a continuous 24-hour basis. We envision that the MASH will be deployed in closer proximity to divisional units than has been the hospital support in the past. At the present time approximately 50 percent of the existing and programmed Combat Support Hospitals are scheduled for conversion to the new organization and to the larger 400-bed Evacuation Hospital. We began with a MASH conversion this year at Ft. Bragg, North Carolina. In FY 83, conversion of 3 Active and 6 Army National Guard and Reserve Combat Support Hospitals to the MASH configuration will be accomplished. The conversion program, plus programmed activation of additional units, will enable us to support each combat division with a larger number of surgical suites and hospital beds. These improved capabilities are especially important during fast-moving tactical operations and in environments where weather conditions or enemy air activity restricts the movement of patients far to the rear for lifesaving surgery.

Next January we will improve support to our forward deployed force by activating an evacuation hospital in Germany. This will be followed later in the year by the activation of two medical companies to support the Armored Cavalry Regiments.

REVISIONS/UPDATING OF MEDICAL ASSEMBLAGES

We are continuing to modernize our field medical equipment sets to insure that effective medical care can be provided on the modern battlefield. This is an enormous task which will require several years of concerted effort. When completed, it will provide the necessary supplies and equipment to treat medical personnel and units--from the frontline medic to hospitals in the rear echelon of a theater of operations. Our greatest concern is the adequate funding of this effort for the next several years.

The Army has discontinued the Medical Unit Self-Contained Transportable (MUST) Program. All materiel already procured under the MUST program will be fully used, but additional or replacement requirements will be met by improved standard military equipment.

We have placed more emphasis on coordination and interface with the other military Services. This has resulted in more effective efforts to standardize field and deployable medical systems. Some of the initiatives already implemented include:

Military Field Medical Systems Standardization Steering Group (general/flag rank officers);

Military Medical Coordinating Group for Materiel Readiness;

Medical participation in Joint Panel on Tactical Shelters;

D-Day significant item list for consumption during mobilization.

FACILITIES PROGRAM

The Army's Health Facility Modernization Program continues to replace and modernize medical and dental treatment facilities around the world. These new facilities provide us with the ability to improve our medical and dental care, but generally result in smaller facilities, thereby restricting our capability to accommodate increased patient workload and reducing our ability to meet wartime requirements. For FY 83, we have various hospitals and clinics in CONUS, Korea and Germany that are scheduled for modernization and replacement. In accordance with our goal to provide high quality care, these projects comply with the stringent hospital and professional accreditation and safety requirements as determined by the Joint Commission for Accreditation of Hospitals (JCAH) and other agencies. Currently, all CONUS hospitals are accredited by JCAH. Our hospitals in Frankfurt and Landstuhl have received initial one year conditional accreditation and many of our remaining hospitals will undergo initial accreditation surveys this year and next.

SUPPORT EQUIPMENT

Along with the modernization of our facilities is the modernization of the equipment placed in both old and new facilities. Recently, increased funding has improved our ability to keep pace with technological advances and, with the funding of our program through FY 83, we will continue to do so. We have largely completed the task of modernizing our radiology departments and are applying technology to help restrain cost growth while reducing risk to patients. Most of this technology, such as computerized tomography (CT) scanners and nuclear medicine equipment is expensive to acquire; however, the payback more than compensates for this initial expense. These technologies permit faster, safer, and more accurate diagnostic procedures.

To assure the effective, efficient use of resources applied to medical equipment, the Army is revamping the policies and procedures which govern its medical equipment program. These changes focus on better documentation and streamlining of the approval and funding process.

We have also implemented a system to provide more information centrally concerning our Army-wide equipment inventories. This will improve our ability to accurately forecast equipment resource needs. It will also help us monitor the status of medical equipment at each hospital. Improvements to the Automated Medical Department Property Accounting System provide a more effective analysis tool for use by equipment planners.

NEW SYSTEMS/STANDARDIZATION

Implementation and automation of two Tri-Service, DoD sponsored management information systems, the Uniform Chart of Accounts (UCA) and the Uniform Staffing Methodologies (USM), are well under-way in the Army Medical Department. The UCA is in full operation on a partially automated basis, with Army medical treatment facilities supported worldwide from regional locations in Texas, Hawaii, Germany, Japan, and Korea. Worldwide implementation of the USM began on a manual basis in FY 82 and will be completed by FY 83. Procurement of equipment and systems to complete automation of the UCA and to provide for USM requirements will begin in FY 83 and be implemented over a period of about two years.

We have made significant progress and improvement in providing automation in support of most Army Medical Department functions. For FY 82 and 83, we are planning initiatives in support of medical intelligence, medical logistics, battlefield automation and European medical operations. In addition, we continue to support DoD Tri-Service Medical Information System Programs for the extension of health care/clinical automation systems.

In accordance with the Army's goal for physical fitness we are conducting a program to medically screen individuals over 40 years of age before they participate in physical training. Pilot projects have been conducted at several sites to validate this medical screening process. Testing and analysis of results will continue in order to develop standards for medical screening and physical training.

RESEARCH AND DEVELOPMENT

The number of disease organisms of proven potential hazard under combat conditions is vast. Production of drugs and vaccines require continuing research since disease organisms change genetically and new disease organisms come to light periodically. In the unstable areas of the world where military conflicts may involve the US, endemic disease are very likely to produce more casualties than will combat arms. Significant strides have been made in all research areas and we hope to continue a strong research program.

Methods have been developed in laboratory animals to effectively treat certain parasitic diseases, such as leishmaniasis with drugs at much lower doses than are currently required. At currently used doses, these drugs have toxic side effects in human patients affflicted with these diseases. These new methods, by allowing much lower doses to be used, promise improved treatment of troops in remote, tropical areas where these diseases are endemic.

A nerve agent antidote (2-PAM-CL), which complements atropine, has been procured and sent to USAREUR. Other new anti-CW agent candidate compounds are being tested for efficacy, CW agent interactions and ultimate military acceptability. The national industrial base for military unique pharmaceuticals is limited and will require significant new resources to meet the pharmaceutical antidote needs in medical defense against CW agents. Plans are being made to build up the capabilities of these industries to meet military requirements. Items under development include CW patient vital signs monitors, patient wraps, CW hardened litters, improved resuscitation devices and improved patient decontamination techniques. Efforts are being expanded to develop medical equipment for operations in a CW environment, and include the development of multi-patient resuscitators for mass CW casualties and chemical hardening of medical supplies.

In other areas, techniques are being improved and materiel and equipment developed for prevention, diagnosis and treatment of combat casualties. Treatment of burns and other wounds has been greatly improved with increased understanding of healing processes and functions of various components of body tissues (we can help the body heal itself better). Supportive devices have been developed for jaw injuries which stabilize the jaw, aid in bone healing and are later reabsorbed by the body. Manufacturing approval is being sought from the Bureau of Biologicals for a preservative that has been recently developed which will increase life of stored blood to 49 days in field situations where freezing is not practical. Current methods permit 30-35 days storage under such conditions; the new methods give us a 40 percent increase in the storage time. Stroma free hemoglobin, an oxygen carrying substance, is being modified to improve its release of oxygen and the time it survives in the circulatory system so it can be used as a blood substitute. To reduce the logistical problems of providing oxygen-free, sterile water and oxygen under field conditions, techniques are being developed to generate them on site.

Support was provided for preparation of a Field Manual on "Stress in Continuous Military Operations." Techniques were developed to improve treatment of severe frostbite, heat stress, and missile wounds. Major changes have been recommended in the Army laser safety standards and to improve safety and safeguard the health of workers involved in demilitarization of BZ chemical agent that has been phased out.

Congress directed the Department of Defense to consolidate infectious disease and field maxillofacial injury research. The Army was designated as the lead agency for the purpose of overall fiscal planning and management within these areas. A consolidation plan, prepared by the Army, has been accepted by the Air Force and the Navy. This plan proposes to allow the Navy to continue operating the facilities involved in these areas of research under overall management and funding by the Army. Interservice staffing of facilities involved in these areas of research in the Navy, Air Force and in the Army will be strongly encouraged.

MOBILIZATION

We continue to strive for mobilization readiness as a part of our combat service support mission in the event of war. In addition to the current initiatives to restructure and modernize our field medical units as mentioned under the earlier portion on modernization, several other programs are continuing in an effort to improve our mobilization readiness posture.

COMMUNICATION ZONE HOSPITALS

The General Accounting Office (GAO) recently made observations concerning the Army's communications zone (COMMZ) hospital program. One of their findings cited our lack of data concerning the total cost of our program. This was true when the GAO conducted its study, however, we have made progress in this area and are moving forward to identify and refine associated cost data. OSD has, for several years, strongly emphasized the use of host nation assets as the most economical method of providing for support functions. Because of this emphasis we are actively pursuing the use of existing facilities in Europe wherever possible. To date this has been a lengthy, time-consuming process; however, it is now beginning to yield positive results. As pointed out by the GAO, the Army has identified a number of sites for use as hospitals. This has been an important project for us because Army planning scenarios reflect a need for these hospitals to be operational by D+30. We believe that having the equipment collocated with the designated site, or at least in country, will enable us to get these hospitals operational by that time.

We have already conducted detailed engineer surveys of two sites. A schedule has been developed to survey the remaining sites commencing this October. Based upon our experience during the first two surveys, it will cost approximately $10,000 to survey each site using Army personnel. We anticipate that only a few modifications will be possible at the majority of sites since most of the facilities are currently occupied. The United Kingdom (UK) recently transferred to US Army control one site which will eventually become a "turnkey" operation for an extensive hospital complex. Beginning in October seven full time personnel will be assigned to plan and coordinate the details of this operation.

It is our intention to acquire collocated storage facilities in existing structures at the appropriate sites. We will store equipment at our central depot only until such time as storage facilities from host nations are available. Collocation of as much equipment as possible will decrease the time required to set up the hospitals and reduce the amount of equipment to be moved from the central depot to the appropriate location. We have no plans to construct warehouses.

While we don't yet have a firm estimate on the cost of managing and maintaining the equipment at the overseas sites, these costs will be incurred whether the equipment is stored in CONUS or overseas. The fact remains that we must have those hospitals to provide the necessary medical support. The obvious advantage to overseas storage is the additional time available to set up the hospitals and reverting to other purposes the lift assets that would be required for these hospitals.

CIVILIAN-MILITARY CONTINGENCY HOSPITAL SYSTEM

The Civilian-Military Contingency Hospital System (CMCHS), initiated by Department of Defense in 1980, has the objective of supplementing the CONUS military health care system during a large scale conventional conflict overseas. Thus far, forty-three (43,000) thousand beds out of a targeted fifty thousand (50,000) have been committed. Participation by civilian hospitals is voluntary and presently 516 civilian hospitals have agreed to participate. Coordination is affected at the community level by commanders of designated military medical treatment facilities. The areas where CMCHS is being implemented were selected primarily for their proximity to military hospitals, hospital bed density and the availability of jetports or deep water harbors.

PROFESSIONAL FILLER SYSTEM

To respond to contingency personnel requirements, the Army Medical Department Professional Officer Filler System has been initiated to designate professional personnel for deployed and deploying units in the event of mobilization. The system has been successfully implemented during recent training exercises.

RESERVE COMPONENTS

Over 70 percent of the total Army medical force structure is in the Army National Guard and US Army Reserve. The ability of the Reserve Component forces to accomplish their mission training and readiness objectives is absolutely essential to adequate wartime health care delivery. I am encouraged by improvements in Reserve Component readiness. In order to effect joint coordination and enhance medical readiness at the highest level, a DoD Reserve Component Medical Council was established last year.

NAVY SUPPORT

In joint planning for the Rapid Deployment Force, it was recognized that the Navy would be unable to provide adequate field hospital support to the Marine Forces until late in FY 83. Therefore, in order to assist the Navy in providing this support, Army field medical and non-medical equipment to support 1000 beds has been loaned to the Navy.

MEDICAL CENTERS

An integral part of our mobilization plan includes the support provided by the Army Medical Department's medical centers. The role played by these medical centers during actual mobilization is significant. Mobilization planning is primarily directed to meet the requirements associated with a European scenario. Medical centers provide for rapid expansion of the CONUS medical support and training base. As bed requirements expand for returning war casualties, Army medical centers will provide the largest single source -- almost one-third -- of readily usable hospital beds and expansion capability. Furthermore, the locations of these medical centers puts them near major transportation networks, thus facilitating the rapid movement and reception of patients and medical supplies during wartime. Our medical centers also provide the major source of training for the professional filler personnel required during mobilization. Thus, medical centers are the key to our mobilization planning and requirements.

DENTAL

Major new initiatives were instituted to improve the dental system's contribution to readiness. Dental manpower resources have been redistributed within the CONUS to insure that comparable levels of care are available at all installations. A policy was established to give priority of care to deployable units and critical personnel.

ESTEEMING

Since the individual is the key to the Army's ability to perform its mission, the Army Medical Department is involved with a variety of programs that improve the working and living environment of the soldiers and their families. These programs reflect the concern of the Army for the individual and result in a greater commitment by the individual to the Army.

ALCOHOL/DRUG ABUSE PROGRAM

The Army Alcohol and Drug Prevention and Control Program (ADAPCP), under the proponency of the Deputy Chief of Staff for Personnel, is decentralized to major Army commands. I am responsible for providing policy guidance and resource support for the clinical aspects of the program. Recently we opened our first residential treatment facility in CONUS at Ft. Bliss, Texas in addition to the facilities we already had in Korea and Europe. These inpatient rehabilitation facilities supplement the 180 ADAPCP outpatient facilities throughout the world and provide programs of 4 to 6 week duration.

FAMILY ADVOCACY PROGRAM

Based on a recent court decision, we have been directed to provide health related services to handicapped children in Europe who are entitled to receive educational instruction from the Department of Defense Dependent Schools. These health related services include medical services for diagnostic and evaluation purposes, occupational therapy, physical therapy and audiology. We are currently in the process of assessing the resource implications of this decision.

The ongoing child abuse and neglect program is well integrated, with the military and civilian agencies cooperating and providing mutually acceptable programs. The more recent spouse abuse program is receiving a similar level of attention. In some areas the Army Medical Department is ahead of its civilian counterparts in managing these important areas of protection for children and families. We will continue to improve and modify our programs in keeping with society's mandates.

DENTAL

One aspect that we believe would improve the quality of life would be adequate dental care for dependents of active duty personnel. We are currently exploring initiatives that would provide for additional dental benefits under CHAMPUS and authorize space available dental care for dependents in all military treatment facilities worldwide.

CONCLUSION

I would like to conclude by emphasizing my commitment to work with you in every way possible. Your help is needed to maintain the quality of the Army Medical Department and solve remaining issues by continuing support of budget and manpower programs. The strength of the Army and the Army Medical Department is improving but the actual and potential increases in workload can be more efficiently served by an increase in ancillary support personnel. During the current economic times, the ability to provide adequate numbers with care may not keep pace with the potential workload and the soldier and his family may feel the impact. As weapon and equipment readiness posture improves, concern for soldier welfare must remain uppermost. We should ask and respond to not only "Are they available in numbers?" but also "Are they committed in spirit?".

Mr. Chairman, I thank you for the opportunity to appear before this committee.

LIEUTENANT GENERAL BERNHARD T. MITTEMEYER

THE SURGEON GENERAL

UNITED STATES ARMY

Lieutenant General Bernhard T. Mittemeyer, a distinguished Army urologist and field medical service authority, was sworn in as the 35th Surgeon General of the Army on 1 October 1981.

General Mittemeyer was born in Paramaribo, Surinam, South America, where his parents served as Dutch Missionaries. He immigrated to the United States in 1944, settling in Bethlehem, Pennsylvania, where he later attended Moravian College, graduating in 1952 with a BS degree.

He received his medical degree from Temple University's School of Medicine in Philadelphia in 1956 and completed his rotating internship at Santa Barbara, California, in 1957. He served as general surgical resident at Fitzsimons Army Medical Center, Aurora, Colorado, from 1959 to 1961 and completed his urology residency in 1965 at the Tripler Army Medical Center in Hawaii.

General Mittemeyer began his Army career with the 101st Airborne Division, first serving as a clearing platoon commander, then battalion surgeon, and then ultimately as the division surgeon from 1957-59. In 1968, he rejoined the 101st Airborne Division in Vietnam as the Division Surgeon and Commander of the 326th Medical Battalion. On completion of his combat tour, he was assigned to Fort Meade, Maryland where he served as Chief of Urology Service, Chief of the Department of Surgery, and Chief of Professional Services at Kimbrough US Army Community Hospital. In 1970, he attended the US Army War College and from 1971-1977 he served as the Assistant Chief, later Chief, Urology Service, and as Chief of the Department of Surgery at Walter Reed Army Medical Center. During this time, he also served as the Urology Consultant to The Surgeon General.

In 1977, he was assigned to Korea as the Eighth US Army Surgeon and Commander of the US Army Medical Command, Korea. Upon his return, he assumed the position of Chief of Medical Corps Affairs and Director of Professional Services within the Office of The Surgeon General. His last assignment prior to becoming The Surgeon General, was as the Commander of the Army's largest medical center, Walter Reed Army Medical Center, Washington, DC.

General Mittemeyer is a Fellow of the American College of Surgeons and a member of the American Medical Association, the American Urological Association, the Association of Military Surgeons of the US, the Society of Government Service Urologists and the Society of University Urologists.

Listed among his military decorations and citations are two awards of the Legion of Merit, the Distinguished Flying Cross, the Bronze Star for both valor and meritorious service, the Senior Parachutist Badge and the Combat Medical Badge.

Prepared Statement of Vice Admiral J. William Cox, Medical Corps, United States Navy, Surgeon General, Department of the Navy

Mr. Chairman and Members of the Subcommittee:

I am Vice Admiral J. William Cox, Medical Corps, United States Navy, Surgeon General of the Navy. I appreciate the opportunity to appear before you to discuss medical activities of the Navy Health Care System.

Navy medicine has the primary mission to provide medical support to the Navy and Marine Corps forces at sea, in the air, and in the field in time of war. In order to maintain and restore functional health, return trained personnel to duty, and minimize disability, Navy medicine must be mobile, flexible, and capable of rapid response.

In order to carry out this mission, a balanced combination of personnel, equipment, and facilities is required. This includes medical support organic to the Marine Corps with its field trained personnel, equipment, and highly mobile resuscitative and holding capability; shipboard facilities ranging from the one corpsman sickbays aboard small ships to the 70-bed facility on the NIMITZ class carriers; hospital ships and deployable fleet hospitals for responsive, mobile, definitive and restorative care in support of contingency operations; numerous overseas clinics and hospitals to provide forward support to the fleet; and a large CONUS based definitive and convalescent care medical system - this serves as a mobilization base by providing trained medical personnel ready for immediate deployment. In addition, this CONUS system maintains the health readiness of the active duty forces, provides expansion capability for wartime, and delivers peacetime patient care.

The concept of medical support for the Navy and Marine Corps in combat operations is a well constructed, integrated medical system consisting of several elements which, when placed together, deliver optimum medical care for combat casualties. These units are not duplicative, but are essential elements which fit together precisely to form a comprehensive system of increasing levels of medical sophistication and capability.

The first echelon in this continuum is composed of the highly mobile company corpsmen and battalion aid station personnel, who go ashore on Landing Day with the assault force and provide very limited, first-aid and resuscitative care to casualties. Seriously injured sailors and marines may be evacuated to casualty receiving and treatment ships offshore, where immediate care can be given.

Once the assault force is established, the company corpsmen are augmented ashore by the Marine Corps Medical Battalion which accomplishes emergency life-saving resuscitative care and patient stabilization before moving the seriously wounded out of the combat area to a more sophisticated facility.

Patients from the Medical Battalion will flow to the Rapidly Deployable Medical Facility (RDMF) or directly to hospital ships and fleet hospitals as they are established.

The RDMF supports organic Marine Corps medical assets with additional resuscitative care to allow for combat surge requirements. It adds limited restorative care capability for the Marine Corps units in the combat zone. Scheduled to be prepositioned afloat, the RDMF will add rapid back-up to the Marine hospital companies and reduce the logistics requirement for initial support of deployed operational units. The 1,000 RDMF beds, configured as four 250-bed units, will be procured and prepositioned by June 1983 replacing the 1,000 beds on loan from the Army.

Fleet hospitals and hospital ships will be the in-theater restorative and specialty care medical capability. Fleet hospitals will be capable of being transported to the rear of the combat zone and communication zone in support of Marine Corps troops and associated ships' companies. This in-theater specialty care allows for increased return-to-duty of casualties within the theater of operations, provides an evacuation flow for casualties in the battle area, and permits stabilization of severely injured patients prior to medical evacuation to CONUS facilities.

The Navy Department has developed detailed lists of items for each hospital size and type based on commercial catalog prices or DOD contracting experience. We have identified the shipping, storage and manpower costs of the fleet hospitals to be warehoused at overseas sites.

The President has asked for $74.3 million in fiscal year 1983 to buy three fleet hospitals, with 1,250 beds, for use in the rear of the combat zone. These hospitals will support the Marine Corps component of the Rapid Deployment Joint Task Force. The Commandant strongly supports this need. These hospitals will be a vital adjunct to organic Marine Corps medical units. They will provide full general surgical and some specialty care otherwise available only on hospital ships, in friendly host nations or in the United States. Later stages of the Fleet Hospital Program will provide hospitals in friendly host nations.

Hospital ships will provide for sophisticated augmentation of medical capability completing the integrated system of medical support from the battle zone to CONUS. These ships will provide for an afloat, mobile, definitive-treatment capability which can be rapidly responsive to global requirements of the Rapid Deployment Joint Task Force and other forces. An aggregate of 24 operating rooms and 2,000 beds will provide immediate, intensive medical care in a variety of operational environments including war at sea, amphibious operations and land based combat. Delivery of the first of these ships to the Navy is anticipated in 1986. Until we obtain hospital ships and fleet hospitals, our capability to support operational commitments is sorely lacking.

In-theater medical support is much more than just statements of doctrinal organization and descriptions of medical facilities. There is the obvious requirement for logistics and people support, a considerable undertaking, which must be sized to the task at hand.

Your Committee deleted the Fleet Hospital Program from the Presidents' request in fiscal year 1982. You did so because you perceived the Services were not coordinating combat medical support among themselves, were not planning to jointly share, and the Department of Defense had not sufficiently standardized deployable medical facilities. I want to assure you we have made signal progress complying with your desires.

The Tri-service Joint Field Medical Systems Standardization Steering Group provides the mechanism to achieve maximum commonality of materiel in the field environment. Work to date has resulted in standardization of major cost items such as shelters, power generators, and electrical distribution systems.

Another example of standardization is the Navy combat zone fleet hospital, which essentially uses the same medical equipment list as the Air Force combat zone hospital presently being procured. The Services are working towards the use of similar outfitting lists for communication zone hospitals.

We are working on more detailed standardization of future procurements. Medical contingency planning among the Office of the Secretary of Defense, the Office of the Joint Chiefs of Staff and the individual Services has improved in quantum measure. In fact, this standardization has made it possible for us to reduce the shortfall of Fleet Hospital beds by purchasing an additional 250 bed Fleet Hospital within the budgeted $75M for a total of 1500 beds in FY 83.

Concurrently, the Defense Medical Materiel Board is reviewing all federal supply classes of medical and dental materiel and identifying those items that are common and essential to all Service requirements. Once identified, these items are declared "D-Day Significant" and will not only be used in day-to-day operations, but will be mandatory for use in all "Authorized Medical and Dental Allowance Lists." These lists form the basis for projecting "Prepositioned War Reserve Requirements." The routine daily use of these D-Day significant items will also provide demand-based data for projection of "Other War Requirements" by the Defense Personnel Support Center. This standardization process has significantly reduced the number of drugs required by all services for D-Day from over 1,000 line items to less than 400.

Personnel is the other essential element required to meet our mission. Given current trends in recruitment and retention, Navy can achieve authorized manning levels for all medical communities. Problems however, remain in the skill mix of physicians.

Efforts to achieve adequate recruitment and retention of physician will depend, in part, upon the continued effectiveness of the recent increases in special pay. Although modest increases in total physician recruitment and retention have been observed since 1980, shortfalls in general surgeons, anesthesiologists, and orthopedic surgeons may be expected to continue. Efforts to address these shortfalls have included assigning recruiting goals to specific specialties, adjusting special pay programs to increase awards for critical specialties, and increasing the number of training positions available.

The Dental Corps should reach its authorization this fiscal year. Based on successful recruitment efforts to date, we anticipate the Medical Service Corps and Nurse Corps will also meet authorized strength. Reenlistment bonuses for selected technical categories in the Hospital Corps, coupled with significant military pay raise in the recent past, have reversed downward trends in recruitment and retention in our enlisted community.

Increases in funds for operations complement our manpower increases. These funds provide for the health maintenance of our growing active duty endstrength and enable us to render the most cost-effective health care to the growing number of non-active duty beneficiaries. Increases in operating funds will permit us to bring an increasing number of dependents into the direct care system, thereby continuing the declining trend in the issuance of nonavailability statements for CHAMPUS care.

Our participation in the Combat Casualty Care Course, an integral part of our operational training, is an example of inter-service cooperation. We provide training in wartime medical skills for our physicians in this course at San Antonio, Texas. In addition to preparing our surgical specialists for in-theater support, this tri-service course prepares our non-surgical specialists to provid minor surgery, resuscitation, and other life-saving procedures under combat conditions. Two hundred physicians were trained in fiscal year 1981, four hundred are scheduled this fiscal year, and eight hundred Medical Department personnel will be trained in fiscal year 1983.

Another important program in the budget is drug testing, one of the key elements of the Navy Drug Abuse Detection Program. Our laboratories are operating at a high level to support the goals of the Chief of Naval Operations and the Commandant of the Marine Corps. Navy Drug Screening Laboratories anticipate performing approximately 6.9 million drug screening tests in fiscal year 1983. Additional personnel and equipment provided during the current fiscal year have allowed us to further support the Navy's stepped-up efforts in this area.

Family Advocacy Programs were singled out for increases by Congress last year. Our budget request will provide for continuing emphasis on identification and referral of child and spouse abuse cases.

State-of-the-art equipment complements all of our medical programs and is a crucial element in the provision of quality care. Increases in fiscal year 1983 Other Procurement, Navy funding will provide for medical equipment necessary to maintain the health of a growing active duty endstrength in our direct care system. We will also effect modest decreases in the amount of medical equipment awaiting replacement.

Once obtained, Medical Department resources must be managed efficiently. Navy regionalization and tri-service regionalization complement each other and ensure cost effectiveness during peacetime. Navy regionalization provides the command and control by establishing accountability for all medical care in an area including support to the operational forces, preventive medicine, and patient care. The small branch clinics report to a hospital or Regional Medical Clinic, which in turn report to a Regional Medical Center, who report to the Chief, Bureau of Medicine and Surgery.

Also, these local commanders receive additional duty orders to the senior line commander in the local area. This system of management ensures policy is uniform throughout the Navy medical system, resources are equitably distributed, the Fleet and Fleet Marine operations are properly supported, and our beneficiaries receive quality care.

The Tri-Service Regionalization System integrates the medical care in the local area and the planning at the headquarters level. In each DOD region, my regional commanders and subordinate commanding officers participate in the Regional Tri-Service Coordinating Committee. This interaction promotes efficiencies by early identification of unnecessary duplication and a forum for regional resource sharing. Evident today is the fact that each service provides medical care to thousands of beneficiaries of the other services, resulting in many millions of dollars saved through resource sharing. When co-located with Veterans Administration facilities, their representatives also participate in the Tri-Service meetings. This provides an inplace system to increase interdepartmental resource sharing mandated in the legislation passed by Congress this year.

Continuous dialogue and interaction among the Assistant Secretary of Defense and the three-services' Medical Departments exists at the headquarters level. We participate in the Defense Health Council, Tri-Service Surgeons General Meeting, the Medical Mobilization Steering Committee, and numerous interactions occur at the staff level. We have developed and are working on coordinated management information systems that include workload, cost, staffing, and beneficiary identification to increase uniformity of care in peacetime, and to better integrate our wartime medical support requirements, in conjunction with the needs of all four. Services.

Even with an effective command and control system, the need exists for a "policing function" to ensure that the potential for fraud, waste, and abuse is eliminated. I have formed a Council for Oversight and Review to direct our efforts to prevent fraud, waste, and abuse. The Council directs the Medical Department relationships with various audit, inspection, investigative, and accreditation bodies and review their findings and recommendations. They will also review and act on new systems, ideas, and recommendations for change to existing systems of control.
As a first step toward strengthening regionalization and improving medical and military effectiveness, I have recently announced the reoganization of the National Naval Medical Center. The new organization separates the hospital management from the management of the region. This action will strengthen command, control, and communication within the National Capital Region. The reorganization will provide the management structure to ensure regional problems and tasks such as resource planning and utilization, records, and documentation, are pursued in a timely and efficient manner, and to allow hospital operations to fully focus on patient care.

The plan reinforces clear lines of authority and accountability to improve quality assurance, organizational efficiency, and overall responsiveness to the needs of both the patient population and the Navy/Marine Corps command structure.

Another management initiative I instituted this year is the Surgeon General's Goals and Objectives. My highest priority as Navy Surgeon General is to support the medical readiness of the Navy's operational forces. This commitment is structured in my goals and objectives, an organizational declaration developed and distributed within the Medical Department to support its personnel, guide its administrative course, and conserve its resources.

These goals, and their component objectives, represent areas that will guide the operation of all Bureau activities, both field and headquarters.

My commands are responsible for addressing these critical objectives such as improving the cost-effectiveness of Medical Department programs and eliminating waste, fraud, and abuse. I personally monitor command reports on progress in meeting their goals, and it will be partly from these results that we will review our progress in the Medical Department.

Thank you for the opportunity to talk with you about Navy medical activities. I stand ready to answer your questions.

VICE ADMIRAL J. WILLIAM COX
MEDICAL CORPS, U. S. NAVY

John William Cox was born in Saint Louis, Missouri, on 31 August 1928, son of Mr. William Elbert Cox and Mrs. Evelyn (Schenck) Cox. He attended the College of Arts and Sciences of both Saint Louis University and Washington University, Saint Louis, Missouri, for premedical work and in 1952 received the degree of Doctor of Medicine from Saint Louis University. In 1949, while in Saint Louis University School of Medicine, he received a concurrent appointment as Associate in Physiology (Research) in that department. In 1950, he was concurrently registered in the Graduate School of Saint Louis University as a U.S. Public Health Service Predoctoral Fellow (1950-1951) and U.S. Public Health Service Postdoctoral Fellow (1951-1953). He was recipient of the Borden Award for Medical Research in 1951. The degree, Doctor of Philosophy was conferred in 1953. His major was physiology with minors in anatomy and pathology. In 1953 he was appointed Director of Research Laboratories of the Veterans Administration hospitals (Jefferson Barracks and John Cochran Hospitals) in Saint Louis, Missouri.

On 12 February 1954, he entered active naval service and was augmented to Regular Navy in 1956. After he was called to active duty in 1954, he interned at the Naval Hospital, San Diego until February 1955, after which he joined the staff of the hospital as Head of the Cardiopulmonary Laboratory, Officer-in-Charge of the Nontuberculous Chest Disease Branch of the Chest Service, and Lecturer in Basic Sciences. In 1956, he was appointed to second year level residency training in Internal Medicine. Upon completion of his training in 1959, he was reassigned to the staff as a Medical Branch Supervisor.

In 1961 he reported as Director of Clinical Services and Chief of Medicine to the U.S. Naval Hospital, Subic Bay, Republic of the Philippines. He joined the staff of the Naval Hospital, Philadelphia, in 1963 as Head of the Cardiovascular, Pulmonary and Communicable Disease Branch and later as Chief of Medicine and Director of Research. He joined the staff of the Bureau of Medicine and Surgery in 1970 where he served first as Assistant Head and then as Head of the Training and Clinical Services Branch, Professional Division. He then assumed command of the Naval Medical Training Institute in 1973, and command of the Naval Health Sciences Education and Training Command in 1974. In 1977 he assumed duties as Assistant Chief for Human Resources and Professional Operations, Bureau of Medicine and Surgery. In 1978 he assumed command of the Naval Regional Medical Center, San Diego, where he remained until nominated and confirmed to become the twenty-eighth Surgeon General of the Navy. He was promoted to the rank of Vice Admiral and assumed duties as Surgeon General and Chief, Bureau of Medicine and Surgery on 22 September 1980.

From 1971 to 1977, Admiral Cox was also the Bureau of Medicine and Surgery's Special Assistant for Medical Department Education and Training, Special Assistant for Medical Education and Training in the Office of the Chief of Naval Operations, and the Surgeon General's representative to the Secretary of the Navy's Advisory Board on Education and Training.

Admiral Cox is a Diplomate of the American Board of Internal Medicine and a Fellow of the American College of Cardiology, the American College of Physicians, the American College of Chest Physicians, and the Philadelphia College of Physicians. He is the Navy Delegate to the House of Delegates of the American Medical Association. He was Treasurer and a trustee of the American College of Cardiology from 1974 to 1979. His professional memberships include the Executive Council of the Association of Military Surgeons of the United States, the National Medical Audiovisual Center Advisory Committee, the National Board of Medical Examiners, the American Heart Association, and Chairman of the Section Council on Federal and Military Medicine of the American Medical Association. He is also a member of the Research Society of Sigma Xi; the Society of Medical Consultants to the Armed Forces; Board of Directors, Gorgas Memorial Institute; Board of Regents, Uniformed Services University of the Health Sciences; Board of Regents, National Library of Medicine; Defense Health Council; and the National Medical Veterans Society. He is a member of the Advisory Committee on Continuing Physician Evaluation of the National Board of Medical Examiners; and the Subcommittee on Lister Hill Center for Biomedical Communications, National Medical Audiovisual Center.

Mr. Chairman and Members of the Committee

I am Major General Murphy A. Chesney, U.S. Air Force Deputy Surgeon General. I welcome the opportunity to discuss with you the current activities of the Air Force Medical Service.

The Army, Navy and Air Force Medical Services make a common contribution to the national security. Together we must be able to respond instantly to any combat or contingency requirement. Each of us has a well-defined mission to meet that response. We accept that serious responsibility as part of the national health care community with pride and enthusiasm.

The Air Force Medical Service has a wartime and peacetime mission. It provides the medical support necessary to achieve maximum wartime readiness and provide a rapid response capability through mobility and flexibility. It promotes Air Force combat effectiveness by prevention of disease and injury and provides health care for our members and their families.

In late 1978, a thorough review of capabilities indicated insufficient resources to accomplish these tasks. Specific programs were generated to improve capability to support combat operations and to improve the services to Air Force families.

Medical readiness has been and is the primary concern. You have been briefed previously on the various readiness training initiatives, including the Tri-Service Combat Casualty Care Course, Battlefield Medicine Course and Medical Red Flag. These are continuing and are proving to be very effective in developing the skills needed for wartime.

Many tri-Service cooperative efforts are underway. For example, a Tri-Service Military Field Medical System Standardization Steering Group has been established to guide the development of standardized field medical systems. The goal is to encourage maximum commonality of medical materiel in the field environment. In addition, a Military Medical Coordinating Group for Materiel Readiness is in being to document the review, provide coordination, and exchange information. The objectives are to eliminate duplication of efforts, determine the degree of equipment commonality for like field functions, and promote the standardization of medical systems. Further, the Department of Defense (DOD) has established select task forces that develop lists of common use high volume medical/dental products that will be the items of choice for all war reserve materiel (WRM) programs.

Wartime Theater Medical Organization

The Air Force has adopted a "four echelons of care concept". The thrust of this plan is to provide effective and efficient medical care to casualties in the combat area; to provide rapid evacuation for definitive treatment as required; and to assure early return of minimally injured combatants. In the event of war, every Air Force member will have a role to play.

The first echelon of care (self-aid and buddy care) is accomplished where the injury occurs. It applies to personnel on or near the individual operating base, and has limited capability such as hemorrhage control, wound protection, and assistance of injured to the next echelon.

The second echelon (emergency care by medics) is sited on or near predesignated operating bases. At this level, triage and initial stabilization are provided. Patients will be evacuated to higher echelons as condition dictates, or returned to duty.

Third echelon care is provided in a facility designed to provide immediate surgical care. These facilities will be providing care for patients evacuated from nearby second echelon units. We will concentrate on stabilizing patients, rapidly returning to duty those who are able and evacuating patients who require prolonged care to the next echelon. Patients who can be returned to duty within the combat zone evacuation policy limits will remain in third echelon facilities.

Fourth echelon care is provided in large wartime hospitals located as far to the theater rear as possible. These facilities are sized in increments of 500 beds. Staffed with most specialties, the fourth echelon facilities will be able to provide comprehensive care for wartime casualties. Those who are expected to return to duty within the theater evacuation policy limits will remain at the fourth echelon. Patients who will exceed these limits will be evacuated to the United States.

Wartime Requirements Determination

The determination of our wartime requirements is a two-step process. The line of the Air Force determines the projected casualty rates based upon intelligence data (threat analysis), weapons effects, historical data, and other criteria. The Air Force Medical Service then uses a tri-Service data base to compute the bed and physician requirements. The computer model includes the casualty rates, forces at risk, and specifies the requirements for beds in theater and continental United States (CONUS) beds.

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Physician requirements by specialty are then determined by diagnostic classification. Each class contains a predetermined treatment protocol consisting of a series of required tasks, task completion times, and a treater of choice for each task. Service-specific frequencies of occurrence applied to each diagnosis are included. The model applies these diagnostic frequencies to the number of patients admitted and determines the number of patients in each diagnostic class. The model then computes the number of physicians needed in each specialty. At present, this methodology has been applied only to physician specialties. We plan to model other providers of care. Support personnel requirements are currently computed via a ratio method (for example, 7.22 enlisted per physician in CONUS).

Manpower Status

Staffing continues to improve although there are still shortfalls when measured against the requirements for early wartime. The chart on the following page lists the current status:

Manpower Status

Corps	Active Duty Required	FY 82 Authorized	Assigned	Authorized vs. Assigned	Required vs. Assigned
Medical	5,155	3,692	3,501	-191	-1,654
Dental	1,598	1,590	1,526	- 64	- 72
Nurse	7,564	4,449	4,354	- 95	-3,210
Biomedical Sciences	2,243	2,237	2,112	-125	- 131
Medical Service Corps	1,558	1,116	1,104	- 12	- 454
TOTAL	18,118	13,084	12,597	-487	-5,521

Early war mobilization requirements call for 5,155 physicians on active duty. Physicians in excess of current peacetime authorizations can be effectively used to provide health care to eligible beneficiaries and subsequently reduce Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) costs.

Physician specialty staffing remains a problem although there was significant improvement during the past year.

Sixty-seven percent of the critical specialty recruiting goal was attained in FY 81 compared to 26% in FY 80. Those specialties which are currently designated as critical are: surgery (general, colon/rectal, neurological, orthopedic, urologic), obstetrics/gynecology, ophthalmology, otorhinolaryngology, hematology/oncology, rheumatology, and neonatology. The long range outlook is for improved staffing in most critical specialties; however, general surgery, orthopedic surgery, and otorhinolaryngology will remain critical for several years.

Physician Assistants

Air Force physician assistants (PAs) continue to make valuable contributions to health care delivery. At present, there are 424 commissioned physician assistants and 17 enlisted. Fifty-six are in training. The plan is to complete the transition to an all commissioned PA work force by September 30, 1982. Of the enlisted PA force, 3 will not accept a commission because they will lose money and 2 are short the required bachelor of arts degree. Those who are not commissioned by September 30 will have to either retrain to another career field, revert to a previously held enlisted specialty, separate, or retire if eligible.

Five physician assistants are in advanced training: 2 in general surgery, 2 in orthopedics, and 1 in ear, nose, and throat (ENT). These specially trained PAs will help alleviate some of the workload in those critical specialty areas.

The current authorization for 456 PAs is expected to increase to 716 by FY 86. The Air Force can reduce the cost of health care by using a mix of MDs/PAs in primary care areas.

Reserve Forces

Reserve and Guard Medical Service manning continues to improve. Overall medical staffing in the Reserve program this past year was 106% in the unit program and 87% in the individual mobilization augmentee program. Staffing in the Guard was 96%.

During this period, physician staffing in the Air Force Reserve was 109% in the unit program and 78% (of authorized level) in the individual mobilization augmentee program. Physician staffing in the Air National Guard was 86%.

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There is an Air Force five-year plan to increase the number of Air Force Reserve medical personnel from 5,500 to almost 10,000. The increase means Reserve/Air National Guard will make up 20% of the Air Force's total wartime medical team. The plan is part of an overall Department of Defense effort to increase wartime medical capabilities. Some of these Reserve medical personnel will augment full time Air Force medical staffs on annual training tours and during unit and individual training periods. Since much of it will take place during normal working hours rather than the traditional weekend training periods, it will result in a temporary increase in staffing and available expertise for the hospital.

The USAF plan for the use of the medical units of the Reserve and Guard will be accomplished in one of two ways. These units, specifically identified as to their mission, will either be deployed overseas or used as backfill for those active duty CONUS medical facilities whose personnel have been deployed. Participants in the Reserve Individual Mobilization Augmentee Program will report, upon mobilization, to the active duty CONUS medical treatment facility to which their manpower spaces have been predesignated. Those facilities to which they are predesignated are not necessarily the same facilities in which they perform their monthly Reserve duty.

Currently, Air Force Reserve provides 35% of peacetime strategic aeromedical evacuation flying hours utilizing C-141 aircraft. If a major conflict arose today, the Reserve and Guard would constitute 39% of the authorized aeromedical evacuation crews.

The medical Reserve program through FY 88 includes plans for two 85-person Medical Service units with aeromedical staging unit missions; ten 23-person mobile aeromedical staging facilities; eight 149-person Medical Service units with aeromedical staging unit missions; six 10-person mobile surgical units; 406 tactical aeromedical evacuation crew members; 198 five-person strategic aeromedical evacuation crews; and other significant additions.

Actions are underway to increase medical manning in the Guard. By October 1991, the medical Guard staffing is expected to nearly double with significant growth in its capabilities and facilities.

Facilities

The ability to meet our peacetime and readiness needs is hampered by the physical limitations of our medical treatment facilities. The aging facilities are not designed for increasing outpatient care demands. There are shortages of physician offices, examination rooms, and ancillary support space. The state-of-the-medical-art has changed, requiring more sophisticated equipment and patient testing, and that requires more complex, therefore expensive, construction.

Following two rather bleak years in our modernization program, the FY 81 program was funded and included six projects totalling $29 million. The medical construction program for FY 82 was $126 million and included life safety upgrades at two facilities and modernization and addition to one medical center and one base level hospital. The FY 83 budget is just over $100 million.

In an effort to intensify the program to upgrade and modernize health care facilities worldwide, an Air Force program called CHAMP (Clinic and Hospital Accelerated Modernization Program) has been initiated. This is a five-year effort to eliminate serious facility constraints to health care delivery. The total identified requirement is $1.8 billion. The success of the program depends on the support of Congress in providing the funding.

Air Force medical facilities in Europe have suffered austere funding problems as well as additional constraints. In past years, there was a Department of Defense ceiling on the total construction dollars which could be sent to Europe. On-base facilities in Europe with wartime missions require expensive survivability features. Many European installations are extremely small; therefore, space for siting is at a premium. Off-base siting of medical treatment facilities is a long process. Medical facility construction is not eligible for North Atlantic Treaty Organization (NATO) funding. Many Air Force facilities contain extensive fire/life safety code deficiencies. The FY 83 program includes a replacement clinic for RAF Alconbury and an Aeromedical Staging Facility at Landstuhl, Germany. The out-year construction program includes some 18 projects in Europe.

Recent Department of Defense criteria changes permit an increase in square footage for single and double rooms in medical facilities to accommodate mobilization mission requirements. The new criteria will allow the facility at David Grant USAF Medical Center at Travis AFB, California, to virtually double the number of beds it can accommodate in wartime at a very low percentage increase in cost. This replacement facility will be the first Air Force hospital constructed under the new criteria, allowing it to rapidly grow under emergency conditions from 298 beds to 555 beds.

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Wartime construction planning is exemplified by the hospital planned for Osan Air Base, Korea. It has readiness features included in the design. These include placement of critical services on the lower floor for survivability; lower floor underground for blast protection; air filtration system; decontamination, and other features.

Numerous other actions have been taken to expand readiness capability. A five-year warehouse medical construction program (MCP) has been developed which will match delivery of WRM hospital's assets. The total program will accommodate medical WRM storage requirements by the late 80s.

In addition to the above actions, an off-base siting program has been established for those installations considered to be prime targets when replacement projects are required.

The Army and Navy Medical Services have been approached with a proposal for sharing of hospital beds and other resources in theater under various scenarios. Several tri-Service meetings have been held on this and discussions are continuing.

Actions continue to refine the functions of the 38 medical facilities in the CONUS assigned contingency expansion missions.

War Reserve Materiel

Rapid progress is being made in funding for and procurement of War Reserve Materiel (WRM). WRM is prepositioned, insofar as possible, in the theater where it is most likely to be needed. Currently casualty estimates applied to anticipated troops at risk require beds far in excess of those available in the European theater.

Through FY 82, funds were appropriated for 4,420 additional wartime beds and increased mobile surgery capability. The 1983 WRM request includes 2,250 more beds and materiel to implement the program. By the end of FY 83, our worldwide capability will have been significantly increased.

The Air Force Medical Service already has prepositioned three 24-bed air transportable hospitals, eight 250-bed aeromedical staging facilities, eight mobile aeromedical staging facilities, nine second echelon units, 100,000 chemical warfare casualty wraps, and 716 shelter first aid kits.

Four 500-bed hospitals are being assembled for shipment to England and Germany. Two facilities in England and one in Germany have been accepted for eventual wartime operational hospitals. Sites in the United Kingdom and other areas are being evaluated for adequacy.

The Air Force wartime hospitals will be prepositioned where buildings of opportunity are available. Where such buildings do not exist, the Air Force will provide for storage and operational facilities in the Military Construction Program. This policy provides us with satisfactory facilities for wartime use at the least cost. We know the current costs for the medical equipment programmed and associated supplies for each contingency hospital. Other costs are variable, such as, state of repair of buildings to be used and availability of utilities. These are dependent upon Host Nation negotiation and agreement.

Because the Air Force peak casualty load occurs during the initial days of a conflict our prepositioned wartime hospitals must have essential medical elements, such as, surgery, radiology and laboratory set-up and ready to use. This will permit arriving medical personnel from CONUS to complete the hospital set-up without assistance from other functional groups (i.e., Civil Engineering) and to have the hospital operational within 7 to 10 days. This set-up time estimate will be validated with the arrival, on site, of our first 500-bed wartime hospital in England.

There are some Service contingency hospital cost differences. We have worked very closely with Army and Navy in developing comparisons of costs for field hospitals. The Navy 250-bed rear combat zone fleet hospital, the Army 400-bed evacuation hospital and the Air Force 250-bed contingency hospital are now comparable in cost on a per-bed basis. There are differences in costs for logistics and base camp support among the three Services.

Power generation, ambulances, and support vehicle requirements are similar for each unit but are provided for differently by the Services due to differences in mission requirements and operational support concept.

Costs for medical equipment for the Air Force and Navy communications zone hospitals are approximately the same. In cases where costs differ, this is due to the quantity of items ordered rather than differences in types of items. We are developing cost comparisons with our 500-bed wartime hospital and the Army's 1,000-bed general hospitals.

While the degree of progress concerning standardization efforts may be argued, I feel that significant progress has been made, and even more will be evident in the next few months.

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To date, the number of drugs and biological products have been reviewed, and their number reduced from 1,016 to 379. A review of surgical instruments, equipment and supplies is presently ongoing.

The Services have already effected commonality for power generation and environmental control systems; rigid and soft-wall shelters; acceptance to use buildings of opportunity when available and possible; and definition of standard, functional modules or components.

C-Ratings

The Medical Service began C-rating its medical units in 1981. The overall C-ratings percentages have changed very little within the last year. The actual figures are still classified. However, during the past year, 52 wartime missions have been added, including expansion hospitals and second echelon units. Overall, the C-rating status is good and will continue to improve as programmed personnel, equipment and facilities become available.

Quality of Personnel

A careful screening and quality selection process for all medical personnel is conducted by the USAF Recruiting Service and the Air Force Manpower and Personnel Center Surgeon's office. On the whole, this process has been successful. We continue to experience some difficulty in getting accurate information concerning problem providers from the civilian community.

The overall quality of our people is excellent. Members of the officer corps are required to have college degrees in their specialties, with the exception of the Air Force Nurse Corps. The latter are required to be registered nurses; however, in 1980, 65% of the Nurse Corps had bachelors degrees or higher compared with 25.5% nationally. In 1981, 70% of Air Force nurses had bachelors degrees or higher.

All members of the Medical Service are required to obtain continuing medical education to keep up with the state-of-the-art in their respective fields.

More than 1,500 Air Force physicians are board certified. All Air Force physician residency training programs are accredited by the Accreditation Council for Graduate Medical Education. The quality of our programs is substantiated by the success rates of the graduates in board examinations and by the individual program ratings. For example, the Urology Residency Program at Wilford Hall USAF Medical Center is rated number 1 out of 147 programs nationally.

Military program graduates do very well in specialty board examinations. The American Board of Obstetrics/Gynecology reported that the 1981 written board pass rate was 92% for the military, 88% for university programs, and 65% for community programs. Examples of Air Force success rates are: dermatology residency (Wilford Hall) 28 graduates--28 passed; radiology (Wilford Hall) 94 graduates--92 passed; obstetrics/gynecology (Wilford Hall) 38 graduates--38 passed; family practice (Carswell AFB) 25 graduates--25 passed; family practice (Scott AFB) 41 graduates--41 passed. On first attempt, 98% of Wilford Hall psychiatric graduates passed compared to the national average of 52%. From 1978 through 1980, Wilford Hall-trained general surgeons taking the board exam for the first time had a 100% pass rate. The Wilford Hall orthopedic residency ranks in the upper 15% of approved orthopedic residencies in the United States.

National in-service examination places the graduates of the psychiatric residency at USAF Medical Center Wright-Patterson above the norm in all programs and at the norm for university programs.

The medical technology internship programs at Wilford Hall and Malcolm Grow USAF Medical Centers are fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences. During the last 5 years, 90% of the selectees for the program had masters degrees. This is now a requirement. Each graduate of the internship must take the certifying examination given by the American Society of Clinical Pathologists.

Both major training centers for our enlisted technicians (the USAF School of Aerospace Medicine and the School of Health Care Sciences) are institutionally accredited by the Southern Association of Colleges and Schools. They are part of the campus of the Community College of the Air Force. Our training centers adhere to stringent standards of excellence. In addition, 36 courses are individually accredited by specialized accrediting bodies such as the Association of Surgical Technologists, National Society of Cardiopulmonary Technicians, American Dental Laboratory Technologists Association, American Optometric Association, and the National Registry of Emergency Medical Technicians. Two of our technician training programs are affiliated with a civilian university and operate as an extension of its campus.

The certification pass rate for Air Force physician assistants is 80% compared to 76% in the civilian community.

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The competition for entry into the Air Force Dental Corps is steadily growing. The Air Force dental specialty training programs and the general practice residencies are accredited by the American Dental Association Council on Dental Education. Sixty of our 66 continental United States (CONUS) hospital dental services and 19 of the 21 clinic dental services are accredited by the American Dental Association on Hospital and Institutional Dental Services. The standards for accreditation are high. Those services which currently are not accredited are being reviewed and accreditation will be sought.

The Air Force has 381 dental specialists. Of those specialists, 104 are board certified. The remainder of the specialists, 277, are board qualified; however, many of them have not had the required time in the specialty to take their specialty boards. They are encouraged to take their boards as soon as they are eligible.

Credentialing

It is the responsibility of each medical recruiter, health care provider and medical facility commander, respectively, to carefully review each applicant, to report substandard performance, and to monitor staff member's credentials and capabilities.

Peer and credentials review is an ongoing process once the provider enters the Air Force Medical Service. Air Force Regulation 160-41, Air Force Credentials Review of Health Providers, gives extensive guidance on credentialing. Recently, we have drafted an even more comprehensive credentialing regulation which is in the process of being published. The current Air Force credentialing program fulfills all Joint Commission on Accreditation of Hospitals (JCAH) requirements. The credentialing process is geared to ensure that health care providers are practicing within the scope of their training and capabilities.

A more open exchange of information concerning individuals who have been credentialed is needed between the civilian and Federal health care communities. I fully support legislation which would require such exchange, but it would have to be as binding on the civilian community as it would be for the Federal sector. The Privacy Act is binding on the Federal Government but it does not apply to the civilian community. The provision of names of decredentialed providers to the Federation of State Medical Boards (FSMB) is a step forward. But it is voluntary and not all facilities contribute to it. This subject needs continuing review. Currently, we are in the process of publishing a notice in the Federal Register that will change the "routine use" notice to allow notification of the FSMB, state licensing agencies and appropriate board certification agencies.

Quality Assurance/Risk Management

The Quality Assurance Program is a JCAH standard required for accreditation. This standard became effective January 1, 1981. It provides for a comprehensive, integrated, ongoing objective assessment of important aspects of care and the correction of identified problems. The JCAH does not require a separate Risk Management Program for accreditation as a part of its Quality Assurance Program; however, the Air Force has implemented one.

Within the Air Force, risk management is a collective effort to avoid risk-creating incidents. Air Force emphasis in this area began as a result of the changing trend in public reactions to health care nationally. In the mid-70s a significant increase in malpractice claims began nationally. The Air Force was not left untouched by this rise in claims. As a result, in June 1979, I directed the establishment of a Risk Management Program. Between September 1979 and January 1980, an intensive program was undertaken by the USAF School of Health Care Sciences to train risk managers, both in the United States and overseas to administer our program which was implemented in February 1980. This program complements the JCAH Quality Assurance Program. Much hard work has gone into getting this program going. All of our facilities have not implemented a fully integrated program yet, but this is a high priority action and rapid progress is being made. A USAF Risk Management Council has been established which meets twice a year to discuss medicolegal trends and to develop methods for program improvement. This Council also recommends action on credentialing of health care providers and professional policies and procedures. Semiannual risk management cross-feed reports are provided to major command surgeons and staff judge advocates, base medical facility commanders, and base legal offices. The data is used as teaching information. Lessons learned are addressed by the medical staff. The Risk Management/Quality Assurance Programs have been designated as "special interest" items by the Air Force Inspector General during inspections. Much work remains to be done, but I believe that our efforts are beginning to be effective.

Quality of Care

Recently, the Air Force Medical Service received the broadest and most comprehensive assessment in its history. This review and evaluation was conducted by the Air Force

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Inspector General (IG) at the request of the Chairman of the Subcommittee on Military Personnel and Compensation and Subcommittee on Investigations of the House Armed Service Committee. The Air Force was selected for the study because it was the smallest of the Services and the Chairman felt that any problems identified might also be applicable to the other Services. Your committee has been provided a copy of the IG Report.

Some problems have been identified and they will be corrected to the extent personnel and funding permit. The basic conclusion of the report was that "the USAF Medical Service provides a broad spectrum of effective health care services to more than three million eligible beneficiaries which is equal to or better than that observed nationwide based on available comparison with civilian medical indicators. Management practices used in the system today for responding to resource constraints, mission demands, and patient needs reflect an overall sound system that gives quality care provided by competent and well-trained personnel to satisfied beneficiaries."

CHAMPUS Costs

The increased costs of health care in the CHAMPUS program are of concern. It is our observation that the increase in CHAMPUS costs results from general inflation in health care, the geographic dispersion of the beneficiary population and the increased intensity of care required by an aging retired population, including their dependents. Further, additional costs are associated with CHAMPUS methodology improvements in calculating allowable charges and reimbursements.

A high proportion of CHAMPUS costs that occur within medical catchment areas results from clustering of beneficiaries around select military treatment facilities that are inadequately sized and staffed to meet the beneficiary population health care needs. The sizing of medical facilities is based upon uniform criteria that relate to active duty and active duty dependent workloads, plus 5% for non-teaching facilities and 10% for facilities with teaching and training requirements. Therefore facility sizing and staffing allows for only a minimal portion of the beneficiary population. This leads to a large disparity between care available in military treatment facilities and care required by the beneficiaries.

In recent hearings, there was discussion of the CHAMPUS costs in the metropolitan area of Washington, D.C. Malcolm Grow USAF Medical Center is the only Air Force medical facility in that area. In FY 81, they recorded 9,083 admissions, and 433,556 outpatient visits. They issued only 284 nonavailability statements for care. One hundred thirty-eight of these were for neuropsychiatry, 36 for obstetrics, and the remainder in smaller numbers for other specialty needs. In FY 82 (as of the third quarter), there were 7,427 admissions, 331,803 outpatient visits, and only 224 certificates of nonavailability issued. The majority of these, 131, were for neuropsychiatry, 68 for continuity of care and the rest primarily for lack of specific specialty services.

In spite of our continuing shortfalls in critical specialties, we are working diligently to minimize use of certificates of nonavailability by providing care in military medical facilities whenever possible.

Over the past several years there has been a decrease in the availability of care at military hospitals. There are a number of contributing factors. The foremost problem has been that of severe shortages of assigned specialists which caused closures of entire services at many bases. Those specialties; i.e., general surgery, orthopedics and obstetrics, are also the ones that traditionally generate a substantial number of bed days and follow-up visits. Furthermore, for the last several years our largest medical center has been undergoing a major construction program that has significantly impacted potential workload capacity. The disruption at this single 1,000 bed facility accounts for most of the decrease in admissions for the Air Force.

Another prime contributor is that of inadequate numbers of support personnel. The ratio of support personnel per provider actually fell each year from FY 77 to FY 81. FY 82 began to show an upward swing when the ratio increased from 1.5:1 to 1.64:1 in the ambulatory care clinics. Other factors relate to intensified readiness training requirements and a concentration of many retired beneficiaries in areas where existing undersized and aged facilities cannot accommodate them. Also, more time is being devoted to health education and preventive medicine with less emphasis on hospitalization and clinic treatment. These programs to improve the health status of our beneficiaries have been successful as evidenced by the noneffective rate—the time lost from the job due to illness—which is now the lowest in Air Force history—4.7 per 1,000 personnel not available for duty because of illness or injury. This is projected to go even lower this year. The decline in utilization rates that we have experienced in recent years has now stopped. Preliminary data for the first quarter of this calendar year reveal

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modest increases in both admissions and outpatient visits compared to the same period last year. Future utilization rates are expected to continue to increase as services that were closed because of physician shortages are reopened.

The Military Health Care System

The military health care system, composed of direct care facilities and CHAMPUS, has changed significantly in recent years. An examination of this system and its changes is necessary in order to present the serious problems which confront military health care managers at every level.

An analysis of the system as it existed in the 1950s would reveal health care delivery devoted almost entirely to active duty members and their dependents. In the latter part of that decade, the CHAMPUS program was initiated as a supplemental system to provide a limited amount of health care to dependents of active duty personnel from civilian sources at Government expense. That bill, known as the "Dependents Medical Care Program" was signed into law (P.L. 84-569) on June 7, 1956.

As the military Services began to reflect a small, but growing, population of retired members, the original law was amended in 1966 to include retirees and their dependents (P.L. 614). Further, the name was changed to CHAMPUS. Throughout this period, the military direct care system continued to provide the great majority of medical care to its beneficiaries. A major reason for this was the geographical distribution of beneficiaries in the immediate areas of military treatment facilities. These facilities were adequately sized to more closely approximate the needs of the beneficiary population. Further, the population was relatively equally distributed among the numerous locations providing care. The military Services, then as now, maintained bases and posts throughout the United States. As a matter of interest, the Air Force maintained a heavy concentration of bases and personnel in the northern half of the U.S., allowing bombers a shorter flying distance to potential targets.

In the 1960s, the Services were involved in a large buildup of active duty strength which resulted from the Vietnam Conflict. This caused a significant increase in active duty and dependent members eligible for medical care. Again, much of this care was rendered in the direct care system, because over 79% of the total eligible beneficiary population was composed of active duty members and their dependents who lived near military treatment facilities.

As the Vietnam Era came to a close, two significant events occurred which impacted on the military health care system—the numbers of active duty members and their dependents were greatly reduced and the military draft (including physicians) was eliminated. These two events resulted in a large workload reduction in the direct care system at numerous locations.

During this period of surge and subsequent reduction of active duty strength, an almost unnoticed trend was developing: the beneficiary group composed of retired members, their dependents and survivors was on the constant increase. By 1975, only 58% of the total beneficiary population was comprised of active duty members and their dependents. However, with an overall reduction of beneficiary numbers, the potential impact of this shift was not apparent. Military retired members, much like their civilian counterparts, tended to relocate in the "sun belt" and, in many cases, settled near a military installation in order to use their entitlements.

Meanwhile, with an overall loss of population and a significant loss of clinical specialists (no more draft), the military direct care system experienced a significant decrease in admissions, occupied bed days, and outpatient encounters. As would be expected, many treatment facilities reflected a high percentage of unoccupied beds. The General Accounting Office (GAO) recommended a new methodology to be used when sizing a new or replacement military medical facility. This was supported by the Office of the Assistant Secretary of Defense for Health Affairs (OASD/HA). This new methodology would greatly reduce beds allowed and would primarily be based on the active duty personnel and their dependents workload only. Congress passed this GAO methodology into law in 1977. Still, the impact of this new law was not significant at that time, because the military medical Services were able to successfully fund very few construction projects.

Throughout the 1970s, retired members and their dependents continued to grow in number. Coincidently, CHAMPUS expenditures were also growing, but two changes were occurring—retirees were accounting for an evergrowing percentage of the expenditures and considerable geographic differences in total costs existed. However, as the trend began to show its effects, requirements for the issuance of nonavailability statements were expanded. These statements were required for obtaining nonemergency inpatient care in civilian hospitals if the beneficiary lived within forty miles of a military hospital.

These procedures required retired members and their dependents to have a nonavailability statement. Prior to 1975, this beneficiary group lacked such a requirement. This change was implemented to return the retiree and family to the military direct care system.

Unfortunately, the effort did not result in a massive reduction in CHAMPUS utilization, because only one-half of the equation had been examined. No additional resources were programmed for the direct care system. In the case of the Air Force, between 1975 and 1980, direct care system personnel resources continued to decline, resulting in the further closing or curtailment of clinical services.

As CHAMPUS utilization increased, numerous problems were surfaced, including overall program management within the Department of Defense (DOD). Large numbers of complaints by beneficiaries and the loss of participating physicians forced DOD to take action to correct the deficiencies. Reimbursement methodology, fiscal agent administration, and the CHAMPUS benefits package were improved. During the same period, the direct care system was experiencing significant resource shortfalls and became increasingly unable to meet the escalating needs of the beneficiary population. Therefore, CHAMPUS use and cost continued to increase in selected areas both in terms of services purchased and costs.

Near the end of the seventies up through the present, the program increases which were enjoyed by the military direct care system were primarily devoted to readiness initiatives. Without question, this was a necessity. The primary mission shortfalls had to be addressed and corrected before any other actions could be considered. Congress did support the Armed Forces Health Professions Scholarship Program and the Graduate Medical Education Program. By authorizing and funding these programs in the middle seventies, the long-term clinical specialty management of the direct care system will be greatly improved. This action will allow for a significant number of CHAMPUS beneficiaries to return to the direct care system, assuming other necessary resources are appropriated.

Providing sufficient resources to the military medical Services to meet their wartime missions would coincidently improve the ability to provide peacetime care. However, as a result of the major beneficiary shift, both in category and geographic dispersion, a major problem exists. With the military treatment facility sizing law requiring facility construction based on the workload associated primarily with active duty personnel and their dependents, the Services are not allowed to account for a large portion of their beneficiaries. In the case of the Air Force Medical Service, approximately 50% of its beneficiaries are retired members, their dependents, and survivors.

Thus, the current posture of the Military Health Care System reflects inadequate manpower resources, inadequately sized treatment facilities in selected locations, and a growing CHAMPUS program which now requires a budget exceeding one billion dollars. The problem is further complicated by the annual requirement to take resources from an already austere military budget to pay for the costly and underfunded CHAMPUS program. This program needs to be studied very carefully.

Conclusion

The Air Force Medical Service is continually looking for ways to improve its effectiveness and efficiency in accomplishing its mission. Many improvements in readiness over the past few years have been made. Much remains to be done. The attainment of an effective readiness posture is a complex and expensive undertaking. Exquisite timing and precise planning are needed to acquire the manpower additions, adequate support personnel, and the facility modernization and sizing to meet both peacetime and wartime requirements. A significant step toward achieving the above would be the legislative recognition of a peacetime benefit mission. The attendant growth in staffing and facilities would significantly increase our readiness capability for wartime and provide cost-effective health care to military families in peacetime.

I will be happy to answer any questions you may have.

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MAJOR GENERAL (DR.) MURPHY A. CHESNEY

Major General (Dr.) Murphy A. Chesney is Deputy Surgeon General, Headquarters U.S. Air Force, Washington, D.C.

General Chesney was born November 29, 1927, in Knoxville, Tennessee, and graduated from Central High School near Knoxville in May 1945. He attended the University of Tennessee in Knoxville from September 1945 to March 1947 in an accelerated premedical program and graduated with a bachelor of science degree. He earned his doctor of medicine degree in June 1950 from the University of Tennessee's College of Medicine in Memphis.

In June 1951 he completed his internship at the Scott and White Hospital, Temple, Texas, and entered private practice as a surgeon and general practitioner at the Edgar Renegar Clinic in Levelland, Texas. A year later he moved to Rule, Texas, where he was associated with Dr. Robert E. Colbert in the Rule Clinic. While residing there he was elected president of the Chamber of Commerce.

General Chesney entered the U.S. Air Force in April 1955, attended the basic orientation course at Gunter Air Force Base, Alabama, and later the primary course in avaiation medicine at Randolph Air Force Base, Texas. In July 1955 he was assigned to the dispensary at Portland International Airport, first as flight surgeon and then as commander. He continued to serve as commander when the dispensary became a hospital.

From July 1957 to June 1960, General Chesney was at the University of Tennessee in Memphis where he completed his Air Force-sponsored residency in internal medicine. During his last year of residency he was appointed chief resident and was involved in several research papers and projects. He also served as a university instructor from July 1959 to June 1960. For the next two years he was assigned as chief of hospital services and chief of the Department of Internal Medicine at Homestead Air Force Base, Florida.

In May 1962 he transferred to the dispensary at Ben Guerir Air Base, Morocco, as commander. He moved to the 401st Tactical Hospital, Torrejon Air Base, Spain, in June 1963 and became deputy commander and senior internist.

General Chesney returned to the United States in June 1966 and assumed command of the 852nd Medical Group at Castle Air Force Base, California. He became director of professional services in the Office of the Command Surgeon Pacific Air Forces, in August 1969 and deputy command surgeon in June 1972. While there his duties included supervision of the professional

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medical care of patients, including combat-injured personnel, intratheater aeromedical evacuation, flight medicine, preventive medicine and bioenvironmental engineering, medical aspects of the drug abuse program and the prisoner of war release program.

In April 1973 General Chesney transferred to Headquarters Tactical Air Command, Langley Air Force Base, Virginia, as command surgeon. He moved to Brooks Air Force Base, Texas, in August 1978 where he was commander of the Air Force Medical Service Center. General Chesney served as director of medical plans and resources, Office of the Surgeon General, Headquarters U.S. Air Force, from January 1980 until assuming his present position in April 1980.

General Chesney is a member of the Society of Air Force Physicians, Society of Air Force Flight Surgeons, International Congress of Medical Astronautics and Cosmonautics and Phi Rho Sigma Medical Fraternity. He is a fellow of the American College of Physicians, fellow of the American College of Preventive Medicine and diplomate of the American Board of Preventive Medicine and diplomate of the American Board of Internal Medicine.

He holds the aeronautical rating of chief flight surgeon. His military decorations and awards include the Distinguished Service Medical, Legion of Merit, Meritorious Service Medal, Air Force Commendation Medal, Air Force Outstanding Unit Award ribbon, National Defense Service Medal and the Spanish Cross of the Aeromedical Order of Merit, 2nd Class.

He was promoted to major general February 8, 1979, with date of rank July 1, 1975.

General Chesney is married to the former Mary Ann Wilson. They have four children: Murphy A. III, Charles Allen, Carol Jean and John Lowell.

Mr. **Addabbo**. Mr. Secretary, you have been Acting Assistant Secretary of Defense for Health Affairs for some time now. How long?

Dr. **Beary**. Last August 6.

Mr. **Addabbo**. Almost a year?

Dr. **Beary**. Yes, sir.

Mr. **Addabbo**. No wonder people question the type of medical care our service people are receiving, why we see CHAMPUS costs increasing, and why people are more reluctant to go to military facilities, because if DOD isn't that concerned about appointing an assistant secretary rather than have him acting, it becomes a question of how the rest of the services view the DOD health affairs office.

SELECTION OF SURGEONS GENERAL

We have read about and heard many stories, harrowing stories about the medical care, and the question of those who are in control. Since you operate as the Acting Assistant Secretary, do you have any say in the actual selection of new surgeons general for the various services?

Dr. **Beary**. In a sense, as the staff person who advises the Secretary on health matters, when the services are making an S.G. selection, he asks us to gather information, to give an opinion on the matter; but basically the selection process is a service prerogative that the Secretary interacts with them about. I am not directly in the chain.

Mr. **Addabbo**. In other words, you are telling me that one of the places that DOD surrenders this oversight prerogative, is in giving the military full sway as to who they are going to make Surgeon General of the various departments?

Dr. **Beary**. I wouldn't say they have surrendered oversight, because the Secretary can always turn somebody down.

Mr. **Addabbo**. You are a doctor. You have experience, and you are Acting Assistant Secretary of Defense. Gen. Mittemeyer was just made Surgeon General of the Army. In your personal opinion, what are his qualifications?

Dr. **Beary**. Very good. He is respected by his medical colleagues. He has had significant administrative experience and has a grasp of readiness issues.

Mr. **Addabbo**. So we have confidence in Dr. Mittemeyer?

Dr. **Beary**. Yes, we do.

APPOINTMENT OF AIR FORCE SURGEON GENERAL

Mr. **Addabbo**. We have with us a Deputy Surgeon General for the Air Force, Major General Chesney. I understand that a new Surgeon General of the Air Force is being considered. Have you had any input as far as his appointment is concerned?

Dr. **Beary**. Yes. I was asked for a comment on that appointment.

Mr. **Addabbo**. And what is your comment as far as his qualifications are concerned?

Dr. **Beary**. I might share with you that scenario. When I made inquiries, a matter was brought to my attention by some retired and active duty doctors who mentioned that a letter had been sent to the Congressman from Omaha in November 1977, reporting that about 20 out of 29 doctors on the staff at Offutt Hospital had recorded some problems with the quality of care at the hospital, basically centering around specialty units that were kept open.

Mr. Addabbo. Who was the head of that hospital?

Dr. Beary. I forgot the gentleman's name, but I can supply that for the record, as to who the hospital commander was.

[The information follows:]

The Commander of the USAF Regional Hospital, Offutt AFB, Nebraska, was Col Burford W. Culpepper, USAF, MC.

Basically, as I said, the allegations centered around specialty units that were kept open without proper specialty staff, and that resulted in a death in the neonatal unit, I am told, secondary to an incompetent physician's activities there.

The Air Force nominee was SAC Surgeon at the time and because of our concern in the context of this Stanford case, I think I was a little more jumpy than I might have been under normal circumstances, and wanted to get a sense of what was going on.

I referred my concerns to Secretary Orr, and he asked the I.G. to investigate them. The I.G.'s conclusions were that the hospital commander was to blame for that matter, and he was fired, so the thing was considered closed. And secondly, there was no evidence to confirm the staff reports that the C.O. was following orders from higher headquarters concerning staffing and productivity policies.

Now, I would sign off by saying Secretary Orr and General O'Malley are people with very high integrity. I believe they sincerely care for Air Force families. When two people whom I respect, specifically O'Malley and Orr, told me they looked into it thoroughly, I have to take their opinions very heavily into account.

Mr. Addabbo. Some question was raised as far as the new Surgeon General, and you mentioned the date 1977. Was there any further review as far as other patients, other commands held as far as qualifications? Was that halfway reviewed before his appointment, or has he been appointed the new Surgeon General of the Air Force?

Dr. Beary. I believe it is still in the White House process right now. Formal announcement has not been made by the Air Force.

Mr. Addabbo. Are they reviewing his past experience since 1977 duties?

Dr. Beary. I would have to refer you to the Air Force Secretariat for that, because I have had no further involvement after making my initial comment.

Mr. Addabbo. And that is all you could do; you just couldn't make an official comment?

Dr. Beary. Yes.

Mr. Addabbo. You have no right of veto?

Dr. Beary. No, being a staff person, that is not my role.

Mr. Addabbo. If you were the Assistant Secretary of Defense for Health Affairs, would you then have the power of veto?

Dr. Beary. Well, no. I would still be a staff person. Basically, the Secretary and Mr. Carlucci are the people who have directive authority in OSD. The remainder of the assistant secretaries have a staff as opposed to a line function.

DR. WILLIAM STANFORD CASE

Mr. **Addabbo**. You mentioned the Dr. Stanford matter. The record shows that he was a cardiac surgeon at Wilford Hall, U.S. Air Force Hospital, in 1978, under General Myers, who is now U.S. Air Force Surgeon General, who at that time was Commander, and Dr. Stanford had a high mortality rate in the patients he operated on.

The staff complained about his competency, and he went to Milwaukee, Wisconsin, for additional training and there was responsible for an operating death that resulted in a malpractice claim against the U.S. Air Force. There is great concern that the U.S. Air Force did not convey information about Dr. Stanford's record to the civilian hospital and doctors in Milwaukee, and there is a question whether General Myers covered up these facts to avoid a controversy that might interfere with his nomination as Surgeon General. These questions were the subject of the January 24th "60 Minutes" program.

Now, there are two important facts. One is that General Myers had been briefed on at least three occasions about Stanford's record, and, second was that two of the signatures of officers who were responsible for evaluating Stanford were forged, but General Myers was the reviewing officer who signed the report next after the two forged signatures, and his signature is authentic.

Is that a concise and clear report of the Stanford case history?

Dr. **Beary**. The basic facts, as you have related them, are the chronology that I am familiar with.

Mr. **Addabbo**. In view of those facts, we were pleased to note that in the current issue of "U.S. Medicine," that apparently the Department of Defense isn't going to finally accept the Air Force Inspector General's conclusion that, since the Air Force never got around to validating Dr. Stanford's mortality rate for the 1975-1977 timeframe, nothing needs to be done about that situation.

Dr. Beary, as a layman it seems to me that five years is more than an adequate period in which to establish a valid mortality rate for a surgeon. In fact, I can't understand why it couldn't be done in five weeks. What is your professional opinion? Is five years too long?

PEER REVIEW MECHANISM

Dr. **Beary**. Yes it is sir, and I might review for those of you who are not in a medical career yourself what the peer review mechanism is, and how it is supposed to work. Think of it in three steps. Step 1: a peer makes charges of incompetency about a colleague. Step 2: an investigation by the Credentials Committee at the hospital, which every hospital is required to have, with testimony by the peers who made the charges. They should be called and give their account to this deliberative body, who would then do Step 3: make a decision.

If the charges are false, the person charged would be greatly relieved and returned to duties in a timely way, and not have prolonged worries about the matter. If charges were true, and if they were serious enough to require decredentialing, then that is the action that would be accomplished. Under our current policy that individual's name and a brief precis of what the offense had been would be sent to Texas so that the public could be protected.

Dr. William Rial, who is the new president of the AMA, was speaking about peer review in his inaugural address, and he said, "Doctors need to do more. To the extent that physicians ignore errant colleagues, they diminish our ethical and professional stature."

Now, in terms of Step 1, in the Stanford case peer charges, I think I will be able to provide you with information that establishes beyond a doubt that the charges are valid and serious. Here I am talking about the Akins data set. His qualifications include serving as chief resident in cardiac surgery at Massachusetts General Hospital. If you are ever making a list of the top three hospitals in the country, MGH will always be on it.

When he was chief resident, he did 240 cases in 1974–1975 during his chief residency year. I would like you to keep that figure in mind. A good heart surgeon should be doing about 150 cases a year. That is who I'd send my patients to. Working as an internist, I have sent many patients to have heart surgery, coronary artery bypass grafts, or CABG grafts for short, et cetera.

The Akins data set on Stanford covers an 18-month period, plenty long enough to make a valid observation. From November 1975 to April 1977, during that time Dr. Stanford operated on 38 cases and seventeen died. You would expect five to die in that period, and that is generous. That is a 13 percent mortality rate. Akins and the rest of the staff were running about 6 percent, which is what I expect at Georgetown, Hopkins, Cornell, or other places I have worked.

I mentioned you need to do about 150 cases a year for currency, so maybe that is one of the problems down there. That wasn't the end, and Akins laid this all out.

Of those who survived surgery, they had a 45 percent chance of not making it back to their room, 20 percent got reoperated on, stitches loose, things leaking, who knows what. Normally you would expect about 5 percent to be reoperated on.

To show we are not talking about a totally statistical phenomenon here, let me illustrate a couple of cases from these 38.

The first case is a girl with tricuspid atresia. The tricuspid valve is on the right side of the heart. Atresia means it is stenotic. The valve allows the blood flow from the atrium to the ventricle. It is a congenital problem, so surgeons do a bypass from the right atrium to the pulmonary artery so blood can get to the lungs basically.

That patient was operated on by Dr. Stanford and died. The autopsy showed that there was a suture occluding part of her distal left anterior descending coronary artery. The coronary artery is one of the three main branches that supplies blood to the heart. In the ordinary heart attack, an artery gets blocked off by cholesterol or plaque or something like that.

The point in this case is it is not a proper surgical technique to tie off the artery that supplies the heart muscle. That is in another part away from the main object of this surgery, and I have never seen any surgery book that says you ought to tie off the coronary artery. Obviously the heart muscle dies and then the patient dies.

Case number two is a patient with angina. This patient got a coronary artery bypass graft done and a vein graft was put in backwards. In this operation, you take a vein for grafting out of the leg. If you hold your own hand up, you can see how the veins stand up and blood only flows one way. That is why the Lord made it that way, so the blood would keep going back to the heart.

So, there are valves in there. That is the point. It permits one-way flow, so if you don't put it in the right way, you are not going to get any blood to the heart that you are trying to fix.

I might share with you a paper. This is all in the public domain in the Milwaukee court transcript. This is a cardiologist talking at a staff meeting at Wilford Hall on 26 May 1977. This is the adult patient who had angina and was one of Bill Stanford's cases and had received a coronary artery bypass graft. Using the saphenous vein, that is what they are talking about, that piece of vein. I am quoting. This is from a tape recording.

> We had a case. I remember I catheterized one of Bill's cases and I injected a graft, and it was that long, and I thought that was a very strange looking graft. They usually clot right after the orifice, which is the opening from the aorta.
>
> Why in the hell should that be? Then we did the rest of the injections and finally I had to go over it with Bill and I said, "Bill, your graft is an inch long and stopped." I said that if you look at the left anterior descending coronary, it goes up your graft to the aorta, which means the graft was put in backwards, reversed. Now, the saphenous vein prevents blood from going down it. I said "Bill"—I had him aside. There was one other guy standing there. I don't know who he was. I said, "Bill, I think we have got a problem here."
>
> Bill's question to me was, "Well, Charlie, can you take a catheter and put it down the saphenous vein and break the valve?" In other words, asking the cardiologist to run a catheter up the guy's leg, hook it around into the coronary and then try to break the valve open. Obviously it is best to put it in the right way, so that you don't have to worry about poking a hole in it when you are trying to poke and poke the vein valve.
>
> He says, "Well, Charlie, can you take a catheter and put it down the saphenous vein and break the valve?" What are you going to say to that? That is a surgeon. What are you going to say when you get that kind of thing, can you put a catheter down the saphenous vein and break the valve? The way it was put in, it was stealing blood from the vessel being grafted. It was actually counterproductive. It was stealing blood.

Mr. YOUNG. What happened to the patient?

Dr. BEARY. I believe that patient survived.

The other young doctor who blew a whistle on this stuff is John Waller, trained at MGH, who is an anesthesiologist and now works at Emory University. He was asked to put a child to sleep who had an AV canal defect, atrioventricular canal. That is also a congenital heart problem.

Basically, the heart doesn't come together right and there are abnormal communications from the atria to the ventricles. There is a 50 percent mortality in these kids, if you don't repair them; but if you do it at Children's Hospital in Boston, Hopkins, et cetera, you will see about a 15 percent surgical mortality rate. So, it still beats that 50 percent mortality rate that is sure to come because of the severe disease.

However, Waller refused to do this canal repair, and this is what shut down pediatrics surgery at Wilford Hall. He was aware that over the last four years Stanford had tried to do seven cases of AV canal and there had been seven deaths. I think I established very clearly that there were some serious charges brought up by Dr. Waller and Dr. Akins.

WILFORD HALL MANAGEMENT TO PEER CHARGES

Then it would be interesting to know what was the response of Wilford Hall management to these peer charges. Dr. Akins—and I am not going to mention any names in the management. As I have explained, Mr. Sherrick has taken oversight of this investigation, and he is looking into the management aspects of the Stanford case.

I don't want to make any conclusions about anything. I simply want to acquaint you with the facts, and certify them so we all know where we are starting from.

Anyway, Akins presented his data to the Wilford Hall management. He was asked, "Do you hate Bill Stanford? How can you embarrass the hospital like this? How can you challenge the top heart surgeon in the Air Force?"

John Waller also presented his data. He was told he was unpatriotic and disruptive to the Air Force mission.

Mr. **Edwards**. Are these comments made by Akins and——

Dr. **Beary**. Akins and Waller.

Mr. **Edwards**. As to what they were told?

Dr. **Beary**. Reflecting their conversations, and these are also in sworn testimony from the Milwaukee trial. I also received a comment which I considered the medical equivalent of cement shoes, conversations of senior officers were reflected to me to the effect that if there is anything these certain figures can do about it, the only job I will get when I leave DOD will be north of the Arctic Circle.

Mr. **Edwards**. Meaning who, you?

Dr. **Beary**. Yes. So I think those three responses suggest that the peer charges were not received in a constructive professional way. It was a very menacing type of thing. Akins and Waller were never called to testify in front of the Credentials Committee.

In the final analysis, it was two courageous, well-trained young doctors who kept this from getting swept under the rug, with some assistance from the press. Peer review failed at Wilford Hall.

From my account here, I would share some conclusions with you.

Number one, the peer charges of incompetence raised by Waller and Akins against Stanford were serious.

Number two, their charges were not received in a professional manner.

Number three, concern about patients should be the central value driving all of these matters. You might just ask yourself as you review many of these actions, "were people thinking about the patients and their families or did they perhaps have other priorities?"

Finally, number four, Mr. Sherrick has oversight to set up a mechanism to determine if the peer charges against Dr. Stanford are true and if management actions at Wilford Hall were appropriate and in accordance with normal and accepted standards of medical peer review.

General **Chesney**. Mr. Addabbo, may I make a statement?

Mr. **Addabbo.** Surely.

General **Chesney.** The Milwaukee case is under legal review. The Air Force Inspector General has answered most of these charges. We have been advised by our legal counsel not to comment further. I was never at Wilford Hall, so I know nothing from firsthand information. However, there are many of these things for which when the time comes, we will present the factual answers.

General Myers did ask for a statistical review and received one in September of 1977, as I remember. He got two other reviews. He has at least three different sets of data on the percentage of deaths that Dr. Stanford has. A recent review has been done. We have a team of disinterested people at Wilford Hall doing a total review of this case. We are contracting with the Society of Thoracic Surgeons to review the entire thing.

There is information already available to me that suggests that at no time was there not a surgeon at Wilford Hall that did not have a higher mortality rate than Dr. Stanford, for instance, and that Dr. Akins rate jumped five times when he became chief and started doing pediatric cases and the more complex cases. There is more to this than we have presented.

[Clerk's note.—Subsequent to his testimony, General Chesney advised the Subcommittee that his remarks regarding Dr. Akins were erroneous. A copy of his letter follows:]

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
BOLLING AFB DC 20332

6 AUG 1982

Honorable Joseph P. Addabbo
Chairman
Subcommittee on Defense
Committee on Appropriations
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

I testified before your subcommittee on August 3. Today, I received the official transcript of that hearing. I have been advised that the following statement, which I made, was in error:

> There is information already to me that suggests that at no time was there not a surgeon at Wilford Hall that did not have a high mortality rate than Dr. Stanford, for instance, and that Dr. Akins rate jumped five times when he became chief and started doing pediatric cases and the more complex cases.

It is my wish that this erroneous information be corrected for the record. I talked with Dr. Akins today and will be sending him a formal apology. In addition, today, my staff notified several members of the press who were present at the hearing in hopes of precluding further dissemination of this erroneous comment.

Please accept my apology for the inaccurate statement.

Sincerely,

MURPHY A. CHESNEY
Maj Gen, USAF, MC
Deputy Surgeon General

Dr. Beary. Since you have raised this specifically, the issue of Dr. Akins' talents, it might be interesting for him to know that Akins has done 400 successive coronaries, surgeries in the past two years, without a death. He did about 375 cases last year (1981) at Massachusetts General with a 2 percent mortality rate, so I don't think Dr. Akins' talents are in question here. If they were, the Air Force should have presented them to the peer review credentials committee.

Mr. Addabbo. General, you are a doctor. We can't go into the case, as stated before, but in your position as a Deputy Surgeon of the Air Force, if one of your subordinates had some question as to his ability as a surgeon, would you transfer him to another hospital without telling the hospital of his prior record? Would that be the course of action the Air Force normally takes?

General Chesney. In the past history of medicine we have answered what we have been asked, and I am sure I have done that in the past, and I am sure that every physician in this room has done that in the past, yes, sir.

Mr. Addabbo. In other words, you state that the Air Force hospital commander was absolutely correct when he said, "Since Milwaukee didn't ask, I didn't volunteer"? Is that the old standby, don't volunteer for anything?

General Chesney. I didn't say the hospital commander was correct.

Mr. Addabbo. Is that what you are saying?

General Chesney. No, sir. I said we have always transferred people, I have, without telling hospitals——

Mr. Addabbo. Is that fair? If you have a man who is questionable—whether he is wrong or right, the courts will decide that—a man who has had a certain background or record, you don't think you should have some comment?

Let me ask you this, General.

General Chesney. Sir, there is a Privacy Act.

Mr. Addabbo. Let me ask you this. In the military, if I remember correctly, the supervising officer evaluates his junior officers.

General Chesney. Yes, sir. The National Air Force Consultant, a civilian consultant in cardiology, reviewed Dr. Stanford's case and told General Myers that he was a good surgeon and he should not worry about it.

So, General Myers had in his hand when Stanford left to go to the civilian——

Mr. Addabbo. Why did he have to go to the civilian? He was a doctor. Did he need somebody else to rubber stamp what he was doing? I just say the matter is going to be adjudicated and hopefully right will be done, and that we will not have to read about these types of cases again. They will have better supervision.

We make the same mistake here in this committee, you know. Our witnesses say, well, you didn't ask us the right questions so we are not going to volunteer the information. I guess that is what prevails in the Service. Don't volunteer anything. The guy can have as black a record as there is, but as long as they didn't ask, get rid of him, move him over, even though he is not qualified.

General Chesney. There is the Privacy Act.

Mr. **Addabbo**. That is what I am concerned about with DOD because they have surrendered this authority to the military and the military has full sway.

The gentleman from Alabama, do you have questions?

Mr. **Edwards**. Mr. Chairman, I was going to move on to the hospital ships, so maybe what you ought to do is yield to anybody else who may want to talk about this particular subject.

Mr. **Addabbo**. Any particular questions on this matter?

Mr. Chappell?

Mr. **Chappell**. No.

Mr. **Addabbo**. Mr. Dicks?

Mr. **Dicks**. No questions.

Mr. **Addabbo**. Mr. Young?

Mr. **Young**. No, Mr. Chairman.

Mr. **Addabbo**. Mr. Hefner?

Mr. **Hefner**. Just one question.

You mentioned a couple of times the Privacy Act. What do you mean? If you have a surgeon who is under review or suspect, do you just ship him off to another hospital? Don't the patients assigned to that surgeon for surgery have some rights?

General **Chesney**. If the man gives us a signed release, we can give that information to that hospital. But under the Privacy Act we cannot scatter information about people.

Mr. **Hefner**. You just send a patient to the hospital and say hey, this guy is a great surgeon, no problems, even though his mortality rate is high? That just seems to me a little bit callous. I don't understand the procedure, I don't understand how it works, but it just seems to me that something should be done. You don't have to blackball the guy, but you could at least tell the people in Milwaukee that there are some things that are under discussion or investigation or what have you.

General **Chesney**. To show you how this transfer is handled in the civilian community, Milwaukee did not tell us about the case that later went into court when he came back to the Air Force. We never knew that until we were sued.

Mr. **Hefner**. Two wrongs. That doesn't excuse Milwaukee.

General **Chesney**. It is policy, the way things happen in the world.

Dr. **Beary**. Not everybody does it that way, I would hasten to add. I was taught to use more of a golden rule approach when I write letters about doctors. I often have to comment on residents and whether they are appropriate for a job or a promotion.

The standard I use is what impact would it have on the kind of care I would get for myself or my family if I were to interact with this person in the future? If I am writing a letter, I want to send the guy the kind of information I would want myself, if I were receiving it.

So, I would not take quite that pessimistic a view. You may not want to put it in writing because people don't want to get sued, but you could at least get on the phone with the guy and give him all the information he needs. He gets to know what he needs to know and keeps an eye on the suspect doctor.

So, there are ways to do it if you want to do it.

Mr. **Dicks**. Will the gentleman yield?

In other words, you call him and say disregard my letter, this is what the guy is all about?

General **Chesney**. We do have a credentials file now that goes with people when they transfer.

Mr. **Dicks**. That is much fairer, don't you think, to the patients and anyone else? There ought to be some way to judge the quality of these people.

General **Chesney**. When a man goes out of the Air Force and goes to a hospital and has privileges and the hospital comes back to us, we provide that and his credentials. That is our procedure now.

Dr. **Beary**. In fact, now, because of Mr. Carlucci's directive, everyone is required, it is not optional, to send cashiered doctors' credentials records to the national clearinghouse in Texas. So it is not an option, that is not a loophole, and it ought to take care of the problem.

Mr. **Hefner**. What is Dr. Stanford doing now?

Dr. **Beary**. Down in Miami.

General **Chesney**. I don't think he is with them right now.

Dr. **Beary**. He still has a license and is down in Miami.

Mr. **Addabbo**. The Navy had not as bad a case but had some problems.

ARMY'S RISK MANAGEMENT PROGRAM

Mr. Secretary, the DOD has appointed Ms. Diane Boley as Director of Medical Program Evaluation Quality Assurance and the Army's Risk Management Program. What will be accomplished with the Risk Management Program?

General **Mittenmeyer**. Sir, I believe that the Risk Management Program is very important to the quality assurance program of all hospitals, and indeed we have instituted a quality assurance program under the supervision of a Quality Assurance Committee at each of our hospitals.

Basically it deals with patient care assessment, which is an ongoing auditing program that is performed by the nurses on the wards, by physicians. And the credentialing of physicians by the Credentials Committee.

It certainly involves utilization review. By that, I mean we will review certain types of procedures—gall bladder operations, and craniotomies, a variety of procedures—to see if first of all the proper indications were there for surgery, if the proper pre-operative and post-operative steps were taken and if the outcome was within acceptable standards.

Finally, the fourth and most important component is of course risk management, and specifically as it relates to the job of a risk manager in each hospital. These individuals are there to see if there is any complaint about the care delivered in that hospital, if there indeed had been some breakdown in communication or if there had been an act that could lead to post-malpractice. Each potential malpractice case is medically evaluated and reviewed by the

Judge Advocate General, and everything is done within the hospital to reduce the potential for litigation.

It basically is an ongoing process. We have introduced into each of our major conferences, not just the specialty conferences of the various orthopedists, urologists, general surgeons, internists, but also at our commanders' conferences we have asked lawyers who are specifically taught to deal with the malpractice problem to lecture to the physician so that they in turn can go back to their staffs, and assist the risk manager.

Dr. **Beary**. Preventive legal medicine, if you will. We have asked the AFIP medical-legal branch to keep us updated on what are the most numerous types of claims of people working in emergency rooms, tending to send too many people out with headaches and fever and not diagnose meningitis properly.

We want to know that so that we can have proper educational programs and correct that in a preventive way. So, that is risk management. I mean, it is looking at your experience and trying to learn from it.

Mr. **Addabbo**. We have dozens of military hospitals, the CHAMPUS program, et cetera, throughout the country and the world, as a matter of fact. Ms. Boley I imagine is going to be stationed here in Washington. Will each hospital have its own person in charge to make these reviews?

General **Chesney**. Yes, sir.

Mr. **Addabbo**. The gentleman from Alabama?

Mr. **Edwards**. Thank you, Mr. Chairman.

Mr. **Addabbo**. I am sorry. If the gentleman will yield. We had further questions relative to the medical care, and we will place them in the record.

[**Clerk's note**.—Questions submitted by Mr. Addabbo and the answers thereto follow:]

[The questions follow:]

SCREENING OF MILITARY DOCTORS

Question. It has been reported that the conviction of a Navy doctor for involuntary manslaughter in connection with the death of a patient has prompted the military to take a closer look at how it screens doctors before accepting them into the service. The case is one that has prompted military medical authorities to draft a directive that would allow closer scrutiny of a prospective military physician's training. Would you make available for the record a copy of the draft directive?

Dr. **Beary**. Mr. Chairman, the case to which you are referring is the Ansari case. We are now reviewing our procedures and requirements for initial commissioning of physicians into the Services. At the completion of our review, we will issue a DoD Directive with appropriate instructions to the Military Departments to ensure that only the best qualified physicians are accepted by the Services.

We have also taken action to weed out problem physicians once they are in the Services. On July 29, 1982, we issued DoD Directive Number 6000.7 on "Dissemination of Information on Medical Officers." This directive requires each Military Department to take immediate action to limit, suspend or revoke a medical officer's clinical practice privileges when he or she is in any way unfit to execute his or her responsibilites in the practice of medicine or osteopathy. It also requires a command review to determine whether the officer should be considered for separation or termination. In addition, appropriate professional authorities will be notified of all actions taken.

We believe these actions are two big steps forward in assuring that our beneficiaries receive quality health care.

Question. What procedures have been used in the past with respect to recruitment of doctors and are the same procedures being used now pending revisions of a directive?

Army Answer. The Army Medical Department follows the following procedures in the recruitment of physicians. These procedures have been in effect for several years.

Local Procurement Personnel:

Verify applicant's license as current, permanent, and unrestricted by requiring a copy for the application and by telephone call to the issuing state license board.

Require a statement signed by the applicant concerning prior or current malpractice suits. As a minimum, the applicant must provide the name and address of his insurance company and an authorization for release of information of any prior or current malpractice suits regardless of outcome.

Require a statement of understanding, signed by the applicant, stating that if, after commissioning, an unacceptable National agency Check or FBI Name Check is received, he/she will be discharged.

Require three letters of recommendation from physicians in a position to evaluate the applicant's performance as a physician, to include his/her ethics and moral character.

Arrange an interview between the applicant and the consultant to The Surgeon General (TSG), or his designee, in the applicant's specialty. Interview lengths are from one to five days and may include case review or performance depending upon the specialty.

Notify U.S. Army Medical Department Personnel Support Agency (USAMEDDPERSA) Procurement of any applicant with prior Armed Force commissioned service so that the prior service records can be obtained.

U.S. Army Medical Department Personnel Support Agency Procurement:

Reviews applications for completeness and accuracy.

Screens prior service records, if applicable, and includes copies of Officer Efficiency Reports, Separation Records and any other data germane to the applicant's character of service in the application packet.

Checks with applicant's insurance company, if applicable, and request a written summary of any malpractice suits.

Medical Corps Career Activities Office:

Determines if a position vacancy is available for the applicant.

Conducts a final telephonic review with the appropriate consultant.

Posts their recommendation to the application packet.

Office of The Surgeon General:

Determines the composition of the selection board from a rotating roster of senior Army Medical Corps officers, the board being comprised of three members.

Conducts the selection board in closed session.

U.S. Army Reserve Medical Corps Selection Board:

Reviews all application packets.

Has the ability to defer cases for additional information.

Votes each case on a fully qualified basis requiring a majority decision.

Makes recommendations concerning selection of each applicant to the Director of Personnel, Office of The Surgeon General (OTSG).

Director of Personnel (OTSG):

Reviews the board's recommendations, calling upon the Chief, Medical Corps Affairs for additional information on any given applicant, if desired.

Has the ability to approve the board's recommendation or disapprove the recommendations in part or in total.

NOTE.—If, after selection but before commissioning, negative information is received on a selected applicant, a recommendation can be made by the U.S. Army Medical Department Personnel Support Agency Procurement Division through the Commander, U.S. Army Medical Department Personnel Support Agency (USA MEDDPERSA) to the Director of Personnel, OTSG to retain or revoke the applicant's selection.

NAVY ANSWER. Navy Recruiting Command utilizes the Navy Recruiting Manual which specifies the professional requirements for education and training. As a further tool, the Recruiting Command provides the recruiter guidelines for contacting the local peer group for reference checks. No change in procedure has been made during the past year.

Air Force answer. Screening procedures for physicians being recruited into the Air Force have evolved over a period of several years. In the 70's, recruiting of physicians helped fill the severe shortages that resulted from the loss of the draft. The application process for physicians generally followed the same procedures as other enlistments or appointments. Because many of the forms were found to be inadequate, or not germane to the education, training and experience of physicians, specialized application procedures, forms, and recruiting techniques were developed. This development and specialization continues today.

While the current screening system is thought to be a good one, improvements are being considered. Involvement of clinical consultants to the Surgeon General, a more thorough system to verify the data on the application forms, and personal interviews of applicants by their future hospital commander are techniques being considered to improve physician screening.

QUESTION. The Navy Times reported that this particular Navy physician's surgical skills were questionable, e.g., before approving the recruitment of this Navy doctor in 1977, Navy recruiters had been told by doctors at some of the medical schools he had attended that the doctor had questionable surgical skills and should not be allowed to practice surgery. The negative recommendations that Navy sources said were received by recruiters were not heeded. On the basis of his medical school diplomas and certifications that he had completed residencies in surgery and urology and that he possessed a license to practice medicine, he was given a direct commission and began to practice medicine in the Navy. Why would the negative recommendations received by the Navy go unheeded?

Admiral Cox. From available records and interviews with the recruiter, no evidence of the alleged negative recommendations were discovered. During the investigation following the incident, some negative recommendations were received; however, these were not known by the Navy recruiter at the time of acceptance for duty in the Navy.

RISK MANAGEMENT PROGRAM

Question. Approximately two years ago, the Air Force Surgeon General established a Risk Management Program and an Air Force Risk Management Council. This was an initiative to identify problems, resolutions and to share in information. General, could you tell us what progress has been made with respect to this Risk Management Program/Risk Management Council?

Answer. We have made considerable progress in our Risk Management Program. In September 1979, we sent out our initial guidance to establish the program. In December 1979, we established the annual Risk Management Symposium at Sheppard AFB, Texas, to train physicians, administrators, and nurses in this program. We have since trained over 470 health professionals. In April 1981, the Air Force published AFR 168-13, Risk Mangement in Medical Care Delivery, which directed all facilities to establish a Risk Management Committee. This commitee meets quarterly to review risk management matters and analyze information that may target deficiencies in patient care and safety. This regualtion also established the Air Force Risk Management Council which meets semiannually at Brooks AFB. This council provides general program guidance and periodic crossfeed reports to all medical treatment facilities. Since April 1981, 5 detailed crossfeed reports have been sent to all facilities. Our Risk Management Committees have established and maintained close liaison with their base staff judge advocate. Also, the Office of the Judge Advocate General, HQ USAF, summarized every malpractice claim which we send in our crossfeed reports for all practitioners to read. In order to better control and emphasize risk managment, the Air Force Medical Service is establishing a centrally managed Quality Assurance and Risk Management Program.

Question. Do the Army and Navy have similar risk management programs?

Army Answer. The Army Medical Department imposes a requirement on each of its hospitals to operate a Risk Management Program as a component of its overall Quality Assurance Program. Since January 1981, all Army hospitals have been required to appoint a Risk Manager and establish a Risk Management Committee. The program is designed to improve coordination between medical and legal personnel regarding the early identification of potential compensable incidents and to identify problems or possible risk circumstances that must be eliminated.

Admiral Cox. Navy Risk Management program goals and mechanisms are similar to our sister Services. The only significant difference in program design relate to chain-of-command/information/processing channels which only mirror the organizational differences between the Army, Air Force, and Navy.

[Clerk's note.—End of questions submitted by Mr. Addabbo.]

Mr. Addabbo. The gentleman from Alabama?

HOSPITAL SHIPS AND FLEET HOSPITALS

Mr. Edwards. I want to talk a little bit about the hospital ships and fleet hospitals.

Admiral, are you the program sponsor within the Department of the Navy for the hospital ship and fleet hospital?

Admiral Cox. No sir I am not. I am a professional adviser on the staff of the CNO and the chief of BUMED on the medical aspects. The actual sponsor for that is the Deputy Chief of Naval Operations for Logistics.

Mr. Edwards. In your professional opinion, should the person in your job, the Surgeon General, have more to say about that?

Admiral Cox. Mr. Edwards, I hesitate because——

Mr. Edwards. I am not trying to get you at odds with your skipper, but it would seem to me that I am a little surprised at your answer, frankly, that you don't have more to say about that.

Admiral Cox. I have everything to say about what is required in terms of medical outfitting configuration, patient flow, deployment philosophy, staffing requirements, but as to the procurement of the hull or hulls and whether it is chartered or acquired, those are engineering supply functions that are well coordinated with my office.

The final common path on those programs, by their organizational nature, rests within the Deputy Chief of Naval Operations.

Mr. Edwards. I understand what you are saying, but you feel comfortable with the relationship as it exists?

Admiral Cox. Yes sir.

Mr. Edwards. And you feel that you or the Surgeon General, whoever he may be, has an adequate chance to have the proper kind of input as to what goes in these ships?

Admiral Cox. Yes sir.

Mr. Edwards. Talk to me about the subject of deciding on whether there will be a ship or ships for this purpose.

Are you getting all the hospital ships you need, in your opinion, or do you find that you get lost in the shuffle trying to accomplish the 600-ship Navy?

Admiral Cox. Mr. Edwards, up until about four years ago, for a variety of reasons, there was gross inadequacy of the input and the attention of the medical requirements into the decision-making process.

Approximately four years ago the mechanism was set up by establishment of the Surgeon General with a staff office in the Chief of Naval Operation Office. This put him on the CNO executive board, present at all deliberations that determined what resources were required in what priority within the affordability range this input and influence, with a fair day in court has increased dramatically over the four years, and I am very comfortable with it.

S.S. UNITED STATES AS A HOSPITAL SHIP

Mr. **Edwards**. Okay, the S.S. United States, as I recall, had been recommended by Secretary Carlucci or at least we have been told that you need a hospital ship capability of at least 2,000 beds and 24 operating rooms, and that it is essential for the medical support of the Rapid Deployment Joint Task Force and that conversion of the S.S. United States to a hospital ship would meet that objective in a cost effective and timely manner. That was a letter from Mr. Carlucci on June 13, 1981. He states that over the last four years the Navy has looked at everything that floats and some things that don't, to try to find a hospital ship and after four years you still haven't, and here we are coming up on the fifth year.

What can we look forward to as far as a hospital ship is concerned?

Admiral Cox. I have as a backup Captain Kerr from the Deputy Chief of Naval Operations for Logistics, but I think I can answer that one on my own.

As you will recall, there was a reasonable analogical difference of opinion between me and Dr. Beary's predecessor, my good friend, Dr. Jack Moxley. Knowing what I know with the likelihood of a multi-focal eruption, I did not want to spend all of that money and all of those years with all of my eggs in one basket, in the S.S. United States.

I know that the thought of a 2,000 bed hospital afloat with the logistic resupply problems is mind boggling. I think simple logic would say that it would be far better to have that requirement in as many as four hulls if it were in the affordability range.

Perhaps optimally three hulls, but certainly no less than two hulls.

Mr. **Edwards**. Somewhere between 500 and a thousand beds per ship?

Admiral Cox. Yes sir.

Mr. **Edwards**. Well now then, Dr. Moxley is not here any more. There sits Dr. Beary. How do you and he get along on that subject?

Admiral Cox. I will let Dr. Beary speak for himself.

Dr. **Beary**. I think reasonably well. The requirement is the main thing I am focused in on.

I am convinced the Navy has a credible program. I detect from my own deep throat sources throughout the Navy strong excitement, both in uniform and the Secretariat, to the hospital ships so I think when they choose something this December, it will be something I can live with.

Mr. **Edwards**. I gather that you are suggesting to us then that you are not necessarily trying to force the S.S. United States on the Navy, is that right?

Dr. **Beary**. Correct.

Mr. **Edwards**. Which is therefore some kind of a departure in the Secretary's office?

Dr. Beary. Although I think it is one Dr. Moxley would be comfortable with as well if he were here. He was really focused on the hospital ship as a requirement. That was tough in itself because there were certain figures in the Navy, Bill not being one of them, who didn't think any kind of a ship was a good idea and until Jack got the money roped in for this thing——

Mr. Edwards. Who is Jack?

S.S. SANCTUARY

Dr. Beary. Moxley. They were pretty blase about it and we got calls, you know, about why wouldn't the Sanctuary be great, that used to be a supermarket down in Florida, and it is in the James River there if it is still afloat. It was condemned as unfit to float in 1977, so we didn't find that attractive.

Mr. Edwards. I was thinking this committee was pushing the Sanctuary. Was it that bad?

Dr. Beary. As I say, it had last been used as a floating store, so that gives you some sense of what shape it was in.

Mr. Edwards. I remember that. I am getting reminded here. The staff has been down there recently and they came back with a comment that the equipment on that Sanctuary was really not too bad and up to date in many ways. Did they see the wrong ship?

Dr. Beary. They must have. I will just put it this way. I wouldn't want to get operated on on it myself.

Mr. Edwards. You would expect us to fix it up a little, wouldn't you?

Dr. Beary. Well, it is not big enough, really, for the force structure. If we had about ten Sanctuaries, we might get——

Mr. Edwards. How many beds would you put on it?

Dr. Beary. Combat is surgically intensive—what you need is operating rooms for surgeons, the Sanctuary has three. We need 24, which is minimal for the force structure we are talking about sending. The Brits were fairly lucky. If they had half a year engagements the enemy might have eliminated their capability derived from throwing some equipment on whatever cruise ship came by. It worked, but I don't think everybody can count on it working ten times if you took it out that often.

Mr. Edwards. I am not going to beat the Sanctuary to death here today. It is something that you always mentioned.

SHIP DESIGN PHASES

Prior to awarding a contract for detailed design construction, the Navy usually completes the following design phases: feasibility design, preliminary design and contract design.

In March the Navy witnesses stated that a number of these design phases were completed. What is the present status of the design work for the hospital ship?

Admiral Cox. Mr. Edwards, may I defer to Captain Kerr on that?

Captain Kerr. Sir, Mr. Edwards, the technical proposals that were received from the maritime industry the first part of February actually represented the preliminary design work. Based on a review of those, on the 6th of July of this year, we awarded to two companies contract design; to Prudential Lines, Inc., who is offering conversion of two LASH ships, and to Apex Marine Corporation, which is offering the conversion of two San Clemente class tankers.

Mr. **Edwards**. You had told us originally I think there were going to be three bidders. What happened to the third one?

Captain **Kerr**. Well, in the request for proposals the way that was worded it would be one, but not more than three.

Mr. **Edwards**. What will be the difference in conversion methods proposed by the two bidders?

They are each proposing to convert different kinds of ships, I believe you just said?

Captain **Kerr**. Yes, sir.

Mr. **Edwards**. What will each bidder end up with then, if you take that particular bidder's proposal?

What will you end up with?

Captain **Kerr**. Well, sir, I hope we end up with two hospital ships with twelve operating rooms and one thousand beds each. So, as far as the technicalities of how the design would be for the particular ships and how the conversion would work, that is something that will be worked out during the contract design.

Mr. **Edwards**. Well, there I guess is where the Surgeon General will have his input, right?

Admiral **Cox**. Yes, sir. Dr. Muller provides input from the Chief BUMED Office. I monitor this personally from the Surgeon General's Office. Admiral Wilson, who is the project officer for fleet hospitals is experienced with hospital ships and gives me advice. I watch it like a hawk.

Mr. **Edwards**. What is the total design contract phase cost?

Captain **Kerr**. The contract design cost is fixed-fee and will be $2 million per company.

Mr. **Edwards**. The milestone date for accomplishing the hospital ship program apparently has slipped several months. As I understand, the contract design awards were to have been made around May 14th of this year. However, the actual award date was July 6th. Did you actually award on July 6th?

Captain **Kerr**. Yes sir we did to the two companies.

Mr. **Edwards**. That is to the two companies?

Captain **Kerr**. Yes, sir.

Mr. **Edwards**. The Navy now estimates the final conversion contract will not be awarded until August 1983. What efforts will be taken to assure that the August 1983 date will be met? Is that pretty firm now?

Captain **Kerr**. Yes sir at this point it looks fairly firm. We will be working very closely with the two companies and hopefully will be able to resolve any problems that might come during the contract design.

Mr. **Edwards**. I am told that Dr. Beary keeps saying it is going to be awarded in December. Is there something——

Dr. **Beary**. It is lucky I came to this so I can get the news here. I thought it was December and as of this morning this is the first I heard it wouldn't be until next summer.

Mr. **Edwards**. Is there any particular thing that has happened that has caused that kind of slippage?

Captain **Kerr**. Well, sir, I am not aware of the December date as part of the program.

Dr. **Beary**. This may be the thing to ask: Is it still going to be in the water in calendar year 1986?

Captain **Kerr**. In fiscal year 1986 we are looking for both ships to be in the water to be delivered to the Navy and I think I become more specific that at this point in time the two companies——

Dr. **Beary**. That is the milestone I am most interested in when I can go for a ride on it so all the other milestones work in it, I can live with that.

Mr. **Edwards**. In March we asked if your cost estimates were budget quality class C estimates. The Navy responded that the cost estimate was of budget quality.

How could you have justified the estimate of budget quality when you had five organizations submitting bids with different concepts in addition to having very little design work completed?

Captain **Kerr**. We felt that the total of $560 million for the hospital ship conversion program was of budget quality and still stand behind that.

However, in working with the companies on the contract design, we will be looking for a way to reduce the cost and yet still retain the full capability that we are looking for.

Mr. **Edwards**. The Chairman and I wrote a letter to Secretary Lehman in June recommending he consider reactivating the Sanctuary which I said I wasn't going to talk about. We will put that in the record and you can comment on that.

[The information follows:]

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TELEPHONE:
(202) 225-2771

June 23, 1982

Honorable John F. Lehman, Jr.
Secretary of the Navy
Washington, D. C. 20350

Dear Mr. Secretary:

Providing adequate medical care and attention to our armed forces, particularly those sustaining battlefield casualties, is a very real issue. The Congress and the Department of Defense have placed a great deal of attention in recent times on addressing the deficiencies in this area. For example, Congress is faced with the decision to authorize and appropriate funds for fleet hospitals, the Rapid Deployable Medical Facility, and hospital ships. While we fully support properly planned medical programs, an issue that is of great concern to us is the lack of a hospital ship in the near term.

Last year, the President deleted his original request for advance procurement funds for converting the U.S.S. United States to a hospital ship. The Department's current plans call for the delivery of a hospital ship in 1986 at the earliest, barring schedule slippage. During the interim time frame, we have a serious deficiency which we believe can be alleviated at a reasonable cost. Past DOD testimony has stated that the U.S.S. Sanctuary, presently in mothballs, can be reactivated in only a few months at a cost of $40 million (1983 dollars) to provide a 700 bed hospital ship. We believe that this program might provide an interim hospital ship until delivery of the currently planned hospital ship in the mid-to-late 1980's.

Accordingly, we believe that the Department should proceed as soon as possible with determining the feasibility for reactivating/overhauling the hospital ship Sanctuary.

There has been reluctance in some quarters of the Navy to support reactivation of the Sanctuary for fear that its presence would become the basis for cancelling other larger, more modern hospital ships. There is little doubt in our minds that this Committee and the Congress will support a well-conceived and documented plan for procuring hospital ships to meet our long-term Defense needs even with the Sanctuary in the inventory. The Sanctuary presently may afford us the opportunity to partially satisfy this requirement in the near term. The Committee realizes that there are numerous funding alternatives for proceeding with a project of this nature so we would appreciate hearing from you on the foregoing recommendation.

Sincerely,

Joseph P. Addabbo
Chairman
Subcommittee on Defense

Jack Edwards
Ranking Minority Member
Subcommittee on Defense

cc: Honorable Melvin Price
Chairman
House Armed Services Committee

Honorable William L. Dickinson
Ranking Minority Member
House Armed Services Committee

Honorable John Tower
Chairman
Senate Armed Services Committee

Honorable Ted Stevens
Chairman
Senate Subcommittee on Defense
Senate Appropriations Committee

The *Sanctuary* had been considered to provide an interim solution to the hospital ship requirement. However, after reviewing the condition of the ship the proposal was dropped as not practical. The review revealed that the Department of the Navy Board of Inspection and Survey had performed an inspection of the condition of the ship and found it unfit for further service. This finding resulted in a recommendation that the *Sanctuary* be stricken from the Navy's Vessel Register. This action occurred as a result of many findings. Examples of major deficiencies found are as follows:

(a) The helicopter flight deck non-skid, safety nets, control tower, lighting, tie-down fittings, etc. are completely unsatisfactory.

(b) The ship's main electrical systems are direct current powered. Ancillary ship equipment and medical equipment are separately supplied from turbo-alternating current generators. All direct current systems are obsolete and parts support will be difficult.

(c) Machinery foundations and bilges within auxiliary machinery rooms require extensive rework to correct deterioration.

(d) A complete rehabilitation would be required to provide upgraded medical facilities to meet current standards.

These findings resulted in a decision not to pursue the reactiviation of the *Sanctuary* as a viable interim alternative due to determination of the ship being unfit to perform its mission.

NAVY HOSPITAL BED REQUIREMENTS

Mr. EDWARDS. We have been advised that the Navy has changed its method of calculating hospital bed requirements. When did this change take place?

Admiral Cox. May I ask for clarification? Are you talking about the fleet hospital program in the 1983 proposal? Originally the 1983 proposal was for 1250 beds in a rear, heavier communications zone-type hospital, through the efforts of the commonality and standardization activities that you have or will be informed of, we were able to move into the standard temper tents and International Standards Organization container shelters. The net result was a reduction in the cost for the package of approximately $15 million, which brought us to the point where we could actually afford, if it were granted, 1500 beds instead of 1250.

That 1500 is still far short of the 11,250 bed total program requirement. But we get more, and sooner, which is very important to all of us right now because other than the RDMF, Rapidly Deployable Medical Facility that we have borrowed from the Army, which is en route to prepositioning and the one thousand replacement beds for that in the summer of 1983 under Marine Corps procurement we have no fleet hospitals in the inventory.

Mr. EDWARDS. Well, you have done some shifting around of land-based beds, to make room for the 2,000 beds aboard ship?

Admiral Cox. No sir. The calculation of the land-based requirement and afloat requirement were separate, but——

Mr. EDWARDS. Neither has impacted on the other?

Admiral Cox. No sir. Other than they both in the early stages are dedicated to support the Marine Corps component primarily of the RDJTF and, of course, a fleet capability, that is total components. The total number of beds were not affected, but the time phasing of the requirement with increased emphasis on RDJTF and its medical support, is the reason that came about.

Mr. EDWARDS. Thank you, Mr. Chairman.

Mr. ADDABBO. The gentleman from Florida, Mr. Chappell.

READINESS OF BUMED

Mr. **Chappell**. Admiral Cox, let me ask you how would you characterize the readiness of BUMED.

Admiral Cox. From a position of almost virtual non-readiness we have made very significant strides over the last several years.

Among those strides is the area of personnel. We have programmed increased strengths across the board to better meet our contingency requirement.

We have provided intensified cooperative combat skills training. For example, all physicians now coming out of their first year of supervised practice who are going with operating forces, are top priority. They are brought to one of the multiple courses, tri-service in nature at Fort Sam Houston in combat casualty care.

Last year we trained 200, this year we will train 400. Next year we will train 800. We have reemphasized training opportunities in actual field experience in tropical and cold weather medicine. We have introduced requirements for personnel assigned to regional medical centers in what we call military and medical readiness and contingency system.

These teams actually are deploying in support of operating forces to the Indian Ocean, or in support of operating forces when they have an actual scheduled fleet exercise.

Two of those teams remain on 48-hour alert at all times, one on each coast.

Those are just a few of the initiatives which are in motion.

Mr. **Chappell**. You told me about the initiatives. Coming back to the question again on the scale of say one to ten, how would you characterize the readiness of BUMED to meet its objectives of supporting the operational forces in time of combat?

Admiral Cox. If that requirement comes on us in the program years, I'd say on a scale of ten, seven. If that requirement comes tomorrow, I would have to say two.

Mr. **Chappell**. Two?

Admiral Cox. We have no fleet hospitals; we have no hospital ships.

Mr. **Chappell**. Forgetting the ships themselves, what is the status of your department? Are you saying it is seven?

Admiral Cox. I have the personnel readiness.

GENERAL SURGEONS—NAVY

Mr. **Chappell**. Okay. Now, you stated that, given current trends, Navy can achieve authorized manning levels for all medical communities, but that problems remain in the skill mix of medical officers.

Which problem, in your opinion, is more serious, the numerical shortfall or the skill mix shortfall?

Admiral Cox. From the contingency or wartime medical support perspective, the skill mix is worst.

Mr. **Chappell**. Would you describe the shortage of the general surgeons as both a numerical and a skill mix problem?

Admiral Cox. Well, it is an absolute numerical problem for general surgeons. It can only be compensated for by other surgical specialists that have had the combat casualty care course and can do life-saving blood hemorrhage control types of procedures and those that have had surgical experience, but who are not fully trained surgeons. We would have to use those personnel in the event of armed conflict.

Mr. CHAPPELL. Is the shortfall of general surgeons, as far as physicians are concerned, the most serious problem in terms of your capability to meet wartime requirements?

Admiral COX. I would have to say yes, sir.

Mr. CHAPPELL. Since you consider the shortfall of general surgeons as being serious and you testified that you increased the number of physician training positions, how many training positions for general surgeons, both in service and out of service, have you added this year to your program as compared to last year's program?

Admiral COX. That specific figure, Mr. Chappell, may I answer for the record?

Mr. CHAPPELL. Would you answer also with reference to the next five years what your intentions are?

Admiral COX. Yes, sir.

[The information follows:]

The increase in surgical training positions is in the full-time outservice program and the Navy Active Duty Deferment System (NADDS). Inservice programs in surgical specialties are limited in number by the Accreditation Council for Graduate Medical Education. Our inservice programs are basically at maximum numbers and we have only been able to increase one Orthopedic program (San Diego) by one resident per year.

Full-time outservice training positions have been increased by 53 billets over the next 5 years and programmed to reach 106 billets by Fiscal Year 1987.

The deferment program has been successful in that 40 fully trained surgeons will be brought to active duty from 1982 to 1987, with 39 of the 40 not available until 1985, 86 and 87.

HOSPITAL CORPSMEN

Mr. CHAPPELL. You described in your statement that the first echelon in the continuum of combat and medical care is the hospital corpsman with the Marine Corps medical battalion aid station. You further described the role of these corpsmen as providing first aid and resuscitative care to casualties.

Where do they obtain their skills for performing such combat duties?

Admiral COX. The first introduction is in hospital corps school, which is a ten-week program. Then if they have not had experience actually in a regional medical center hospital, before they go to duty with the fleet Marine Force, they are sent to a training program in field combat skills requirements at the field medical service school either at Camp Lejeune or at Camp Pendleton.

Mr. CHAPPELL. Are corpsmen assigned to combat segments of the Marine predominantly E-4s and below.

Admiral COX. Subject to perhaps correction for the record, I would say yes.

[The information follows:]

Yes. The basic combat segments of the United States Marine Corps are the Infantry Battalions. The wartime Table of Organization for Infantry Battalions calls for 65 hospital corpsmen, of that number, 50 of the billets are designated for E-4's and below. This equates to 76.9 percent. In peacetime, infantry battalions have approximately 37 corpsmen assigned. As of 10 August 1982, there were a total of 3182 corpsmen assigned to USMC units. Of that number, 2087 (65.8 percent) were in pay grades E-4 and below. The combat support and combat service support units, such as medical battalions, would have a lower percentage of junior corpsmen assigned because of the number of technicians required.

Mr. CHAPPELL. What percentage of your active duty Corpsmen have had formal field combat medicine training?

Admiral Cox. This is a guess, and I can correct it for the record, but I would say about 40 percent.

Mr. CHAPPELL. Check it and see if it isn't nearer 25 or 26 or 27. Check that specifically for the record.

Admiral Cox. Yes sir.

Mr. CHAPPELL. If we were to approximate that 25 to 30 percent have received such training, how many of those are actually in pay grades or other specialities that would not render them available for combat duties in the field?

Obviously that will increase at 40 percent. That is one reason I suggested to you it is not that high.

Admiral Cox. May I answer that for the record?

Mr. CHAPPELL. Yes.

[The information follows:]

The latest Bureau of Naval Personnel reports show that of the total active duty corpsmen approximately 42 percent have completed the Marine Corps Field Medical Service School at some time in their careers. Approximately 300 of the approximately 9,700 corpsmen could not be assigned to duty with the Marine Corps, bacause of technical and/or pay grade requirements. As the mobilization requirement for corpsmen in field duty is 5,600, we have a current cushion of 3,800 for replacements or other requirements.

Mr. CHAPPELL. Do you currently have female corpsmen assigned to either active or mobilization with the Marine Corps?

Admiral Cox. To my knowledge no sir.

Mr. CHAPPELL. Would you check that for the record?

Admiral Cox. Yes sir.

Mr. CHAPPELL. And if you find the answer to be yes——

Admiral Cox. There are dental technicians assigned to the dental battalion, but corpsmen for field combat care, to my knowledge, are not.

If I am wrong, I will correct it for the record.

[The information follows:]

There are approximately ten women HM's assigned to CONUS United States Marine Corps (USMC) medical administrative billets. Examples: one Headquarters Marine Corps, three in USMC Finance Center. None are authorized for assignment to Fleet Marine Force units and none are assigned.

The Commandant of the Marine Corps policy is that not more than ten percent of the Dental Technician billets in Fleet Marine Force Dental Battalions may be filled by women. The target is 22 with 16 currently assigned.

Mr. CHAPPELL. Do they receive combat field training similar to the male corpsmen?

Admiral Cox. No sir.

Mr. CHAPPELL. Why not?

Admiral Cox. Because we don't assign females to the combat units of the organic fleet Marine Force.

Mr. CHAPPELL. Do you have enough field medicine-trained hospital corpsmen of the current speciality mix, both active and reserve, to properly support the Marine Corps for a mobilization situation?

Admiral Cox. Not at the present time.

Mr. **Chappell**. Do you have any idea what the shortfall is?

Admiral Cox. The requirement for Navy Corpsmen is of the order of magnitude of 25,000, I think my deployable, assets would be of the order of 19,000. Those who are females, of course, would not be deployed with the organic forces.

Mr. **Chappell**. Would it be accurate to state without an appropriate number of corpsmen to give initial life-saving resuscitative care to combat casualties that the KIA rate would be significantly higher?

Admiral Cox. I would predict that yes sir.

Mr. **Chappell**. Isn't your significant shortfall of corpsmen a more serious situation than the shortfall of physicians?

Admiral Cox. No, sir.

Mr. **Chappell**. Particularly if physicians can be obtained from the civilian sector more quickly than persons with combat skills?

Admiral Cox. No sir, the corpsmen are essential to do the initial first aid to the wounded and to assist in the evacuation to the skilled individual that can do definitive surgery. But other than plugging a chest wound or putting a compress on that would delay until there is specific definitive emergency care by the physician with surgical capabilities, the likelihood of increased ultimate survivability is not great.

Mr. **Chappell**. I am wondering if you really are catching the point. The point I am raising, the question I am really raising is, isn't the shortfall or corpsmen a more serious situation than the shortfall of physicians, because you can recruit them more quickly trained than corpsmen. Did you understand?

Admiral Cox. Yes sir, I did and——

Mr. **Chappell**. Let me go back to the other question. How are you going to overcome the shortfall of some 19,000 plus corpsmen?

Admiral Cox. The shortfall is the order of a magnitude of 6,000.

Mr. **Chappell**. Six thousand?

Admiral Cox. Yes sir.

Mr. **Chappell**. Out of some 24,000?

Admiral Cox. Out of 25,000.

Mr. **Chappell**. That is still a pretty significant shortfall?

Admiral Cox. Yes, sir, as the program——

Mr. **Chappell**. How are you going to overcome that?

Admiral Cox. In the program years the programmed increase in hospital corpsmen and the increased emphasis on training for combat skills will gradually overcome that if the things that this Congress have done for our enlisted people over the last several years are continued.

With decent pay, the recognition of their importance, and selective bonuses for certain critical skills, we have reversed the loss of our corpsmen through those assists and through initiatives that have been taken within the personnel system of the Navy itself.

Mr. **Chappell**. I understand from your previous testimony that you had to terminate training for your mobile medical augmentation readiness teams this year because you ran out of funds, is that correct?

Admiral Cox. If I may clarify that, Mr. Chappell—we spent the dollars in actual team deployment with operating forces rather than sending them down to a three-day indoctrination course and there were a few teams involved. That was not cancellation; it was an unbudgeted request, and the dollars that were available were allocated to send troops actually in unit formation for unit under way training either to the Indian Ocean or in Marine simulated amphibious landings.

Mr. CHAPPELL. You are saying that you really didn't have to shut it down; you slowed it down a bit?

Admiral Cox. Yes, sir.

Mr. CHAPPELL. And it is in full force now?

Admiral Cox. Yes, sir.

DRUG ABUSE TESTING PROGRAM

Mr. CHAPPELL. Concerning your drug abuse testing program, were you able to handle the dramatic increase in tests this year within your current in-house facility?

Admiral Cox. Without what sir?

Mr. CHAPPELL. Within your current in-house facility.

Admiral Cox. No sir, we were absolutely inundated. We did remarkably well with some additional equipment and with some additional personnel, but we were overwhelmed with specimens.

Mr. CHAPPELL. Some of it you had to contract out?

Admiral Cox. Yes, sir.

Mr. CHAPPELL. How many did you have to contract out?

Admiral Cox. Sixty thousand specimens if I recall the figure correctly.

Mr. CHAPPELL. Was your contracting out to the civilian laboratory fully supported by DOD?

Admiral Cox. Fully supported by Navy. There were some discussions with DOD and I don't think they liked it, but the get-tough initiative that was set out that I said I supported totally, I moved out with the CNO and Commandant, Marine Corps.

Mr. CHAPPELL. One last question

How do you dispose of urine which is radioactive after you run the test?

Admiral Cox. That is low-level radiation and it is handled like any of the other materials with low-level ionizing radiation would be handled.

[The information follows:]

Once the readioimmunoassay screening process is complete, the radioactive urine is sealed in metal barrels and stored for 10 half lives, approximately 600 days, and can then be disposed of as normal non-radioactive refuse.

Mr. CHAPPELL. Please answer the following questions for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Chappell and the answers thereto follow:]

DRUG TESTING PROGRAM

QUESTION. Did you experience any problems with the civilian laboratory?

Admiral Cox. Yes, sir. Positive results were reported by line commands as inconsistent with the overall behavior of some of the people tested.

Question. How many samples were sent to this laboratory?

Admiral Cox. Approximately 60,000 samples.

Question. Of the samples sent to this civilian laboratory, how many were found positive for one or more drugs of abuse?

Admiral Cox. Approximately 15,000 samples.

Question. How many of these positive results are of questionable validity?

Admiral Cox. The laboratories used were state licensed for testing. Although the contract laboratories tested for different metabolites than specified for Service drug screening labs by DOD, the results can be used to enter personnel into rehabilitation-treatment and are thus considered valid.

Question. Are you saying that people who provided urine samples tested at this laboratory and found positive may not have been guilty of drug abuse?

Admiral Cox. These samples were not being used for disciplinary action. They were initiated for purposes of counseling and rehabilitation. If line commands questioned results, they were advised to retest the individual at a Navy laboratory.

Question. What actions have you taken to correct this and have you ensured that people have not been wrongfully punished?

Admiral Cox. We are no longer using civilian contractors. The positive results emanating from the civilian labs were not utilized for punishment.

SPECIALTY SHORTFALLS

Question. You stated that you expect shortfalls in general surgeons, anesthesiologists, and orthopedic surgeons to continue. Are there any other specialties with the same shortfall problem?

Admiral Cox. Yes, sir. Additional medical specialties which will experience a shortfall in inventory versus requirement in fiscal year 1983 are: Neurosurgery; Obstetrics/gynecology; Otolaryngology; Urology; Radiology; Preventive Medicine; Medical Research; Pediatrics; Dermatology; Psychiatry.

Question. How many physicians in those specialties do you have currently assigned in non-clinical, administrative or staff positions?

Admiral Cox. Currently, there are forty-three (43) physicians in those specialties serving in non-clinical, administrative or staff positions.

Question. Of the physicians in these critical specialties who are in non-clinical positions, do they draw the special pays you referenced?

Admiral Cox. Yes, sir. Some draw the special pay because they are currently fully qualified and knowledgeable with recent experience in the specialty and are immediately available as an operational specialist. Further, some draw the special pay because they are in one of the positions requiring management expertise in the critical specialty or they are involved in Medical Research directly related to the specialty.

Question. Is this appropriate under the spirit and intent of the legislation which grants such special pays?

Admiral Cox. Yes, sir. Qualified medical officers should have the opportunity to aspire to administrative, staff or non-clinical positions within their career promotion paths. The Navy Medical Department would not retain such motivated and qualified officers if they were penalized by special pay denial based solely on their acceptance of selection to these positions, or by being denied this upward mobility because of their specialty qualification(s). Further, they remain available as operational specialists.

FLEET HOSPITAL PROGRAM CHANGES

QUESTION. Describe the nature and intent of any changes in your Fleet Hospital Program in recent months. What caused changes and specify what cost differences resulted?

Admiral Cox. The recent changes concern predeployment of the hospitals to overseas sites, changes in the size of the hospitals, standardization of hospitals within DOD, and in the location of the hospitals with respect to the combat zone and communications zone. Most of these changes occurred as a result of the direction your Committee gave us last year. Last year, all of our hospitals were going to be used in the communications zone. However, it has become apparent that the Rapid Deployment force will require increased medical supprt in the combat zone. We, therefore, redesigned our communications zone hospital to be used in the combat zone. Also, because of the high priority given to the RDF, we are buying only the combat zone hospitals in fiscal year 1983. We have decided to use existing buildings abroad and preposition 1000 bed hospitals in them. And we have modified the shelters and medical equipment to make them common and standard within DOD. The total procurement cost of the program we presented last year was $780 million; the revised program procurement cost is approximately $489 million.

COUNCIL FOR OVERSIGHT AND REVIEW

QUESTION. You stated that your Council for Oversight and Review is intended to prevent fraud, waste, and abuse. Is this a BUMED council or a council under your position as the Surgeon General on the OPNAV staff?

Admiral Cox. This is a formal council reporting to me as Chief, Bureau of Medicine and Surgery.

QUESTION. How many members are there?

Admiral Cox. There are twelve members including the Chairman:

Deputy Chief, BUMED Chairman;
Inspector General Medical, Member;
Inspector General, Dental, Member;
Comptroller, Member;
Special Assistant for Medico-Legal Affairs, Member;
Executive Assistant to the Chief, Bureau of Medicine and Surgery, Member;
Executive Assistant to the Assistant Chief for Planning and Resources, Member;
Executive Assistant to the Assistant Chief for Professional Development, Member;
Executive Assistant to the Assistant Chief for Health Care Programs, Member;

Executive Assistant to the Assistant Chief for Dentistry, Member; and

Director, Internal Review, Member/Recorder.

Question. Are there members on your Council who are assigned to either BUMED's comptroller or planning and resources functions?

Admiral Cox. Yes, the Comptroller and the Executive Assistant to the Assistant Chief for Planning and Resources.

Question. Isn't that like the fox watching the chickens?

Admiral Cox. No, one of the primary purposes of the Council is to surface possible areas of fraud, waste, and abuse to the attention of all segments of the Bureau. To delete the Comptroller or the Inspector General would defeat the purpose of an interchange or information that has come to their individual attention. Open discussion about possible fraud, waste, or abuse problem area is vital to effective oversight.

[Clerk's note.—End of questions submitted by Mr. Chappell.]

S.S. SANCTUARY

Mr. Addabbo. The gentleman from Alabama mentioned the S.S. Sanctuary which the Secretary wrote about. Has anyone, either you, Dr. Beary, or anyone from the Navy, been out to see the S.S. Sanctuary recently?

Dr. Beary. I saw it about a little less than a year ago.

Admiral Cox. Admiral Wilson was just down with some people from the Sea Systems Command to look at it both from the perspective of seaworthiness and operating engineering systems and medical systems, and he is an experienced, as you can see, combat surgeon of the nth degree and also an ex-line officer. May I defer?

Admiral Wilson. I went aboard the Sanctuary on the 9th of July, and we came away with several impressions. The most important one is that the configuration after that vessel, regardless of its physical condition, whether it be good, bad, or indifferent, is such that there are some very critical choke points to the flow of patients within that vessel. For example, the helicopter pad at the stern of the ship is very close to a sorting room, but that sorting room is so pitifully small that it is a real choke point to the flow of patients coming in by helicopter.

The next point is that the diagnostic services, particularly X-rays, are forward in the ship and down about three decks.

So that the logical flow of a patient from the sorting station through the diagnostic services into the treatment is over very, very chopped-up and very difficult——

Dr. Beary. It is not in keeping with modern principles of shock trauma surgery.

Admiral Wilson. Vertical transportation is limited to a single elevator. It is a very, very ineffective layout, and to change it would be to virtually gut the ship, in my view.

Mr. Addabbo. The gentleman from Pennsylvania.

CORPMEN

Mr. Murtha. Admiral, if I could follow up on the question Mr. Chappell asked you on the physicians versus the corpsmen. How long does it take you to train a corpsman through the field combat course?

Admiral Cox. Six weeks.

Mr. **Murtha**. So you have 26 to 40 percent, whichever is the accurate figure, trained right now out in the field. What kind of training do they have before they go to the field?

Admiral Cox. They have completed the 10 weeks of hospital corps school, which gives them the principles of anatomy, physiology, first aid, hemorrhage control. Then before they go with the Marines or assigned in support of the Marines, they are put through the field medical service school. This involves exercising under simulated combat conditions, plus classroom work on how to survive in the field, how to handle generators, how to set up battalion aid stations, and the medical company of a hospital.

Mr. **Murtha**. I must have misunderstood the answer. Then every person who goes to the field has 10 weeks basic training in addition to the 16 weeks of field combat training?

Admiral Cox. Yes, sir.

Mr. **Murtha**. What is the figure, 40 or 26 percent?

Admiral Cox. That would be the figure that had been through both of those training programs. But see, that is the Marines. We also have a very large contingent of shipboard and——

Mr. **Murtha**. So all that are in the field with the Marine Corps have gone through these courses?

Admiral Cox. Yes; sir.

Mr. **Murtha**. Both these courses?

Admiral Cox. Yes; sir.

Mr. **Murtha**. Then the 6,000 shortage, where does that come in? Is that for the Navy and the Marine Corps?

Admiral Cox. That would be for worldwide deployment, the total. Part of the questions that were asked—do you have enough assets to man these hospital ships and fleet hospitals if we bought them all worldwide—and the answer to that is yes, I do have, either now or in the program, but it would totally strip any CONUS assets; that is, I would not have anything of significance left to operate the facilities in the U.S. We would have to depend on retired, other reserves besides the Ready Reserve, volunteers, and the selective service once it got geared up.

Mr. **Murtha**. What I am trying to do is get a handle on the overall problem. You don't have the hospital ship available to you. You are short 6,000 people in case of a full mobilization or even under the present circumstances. If the Marines were deployed abroad, you would be short 6,000 corpsmen? That is total mobilization?

Admiral Cox. That is total mobilization. All ships afloat, all hospital ships online, and all fleet hospitals that are in the program there and ready for manning.

Mr. **Murtha**. So if there is a conflict in the near future, you would have enough corpsmen available to man the front-line units in the Marine Corps?

Admiral Cox. Yes sir.

Mr. **Murtha**. What about the field hospitals? What do you do, then, if you don't have a hospital ship. What do you do for a front-line hospital? Do you have field hospitals then?

Admiral Cox. No sir, the organic support to the Marine unit, whatever it be, is the medical battalion, which is comprised of the battalion aid stations, in support of the battalion level, then four medical companies with tents and canvass-type operating tables and 60 beds with each of those, and then a hospital company with six operating tables and tentage for 200 beds under field conditions, but that is on the dirt, under canvass, with equipment that has been upgraded and procured in adequate quantities. But it is strictly life-saving and required urgent surgical care right there in the field.

Mr. Murtha. You have the corpsmen available in the front lines at this point, so if units had to go into the combat, they would have the corpsmen. The next step would be the field hospitals. Do you have the field hospital units and the personnel available to man those for the front-line units?

Admiral Cox. We do have a mix of Ready Reserve and active-duty, and, as I said earlier, they would be stripped out of all the fixed facilities here in the States.

Mr. Murtha. Then the next step would be a hospital to the rear; then you would fly them to Hawaii or fly them back to the States—is that the idea—from those particular hospitals?

Admiral Cox. Yes, sir.

Mr. Murtha. And you would draft doctors, obviously, if it were a major conflict. So, for an initial conflict, you have the medical resources you need to go into combat.

Admiral Cox. In numbers. The surgical skills—

Mr. Murtha. Well, how long would it take you to draft those people, give them the additional training they need to go into combat? Obviously, they have the medical know how. How long would it take you to find them and to get them into the service if that would be a bottleneck?

Admiral Cox. I am afraid, Mr. Murtha, that I am not qualified to answer that because of the nuances of selective service and the laws that would have to be changed. I think under ideal circumstances, it could be done in 60 to 90 days.

Mr. Murtha. How long would it take you to train them, let's put it that way, because the Secretary said earlier he wanted to get people into the reserve, and obviously that would reduce the amount of time it takes you to get them and give them some basic training.

Dr. Beary. For doctors we are looking at a 120-day lag until the time we know we need them and can get them.

Mr. Murtha. So that is to get them in and train them and get them to the front lines.

Dr. Beary. Basically they are already trained, as you gentlemen pointed out. We are just getting them in the right size uniform and in a unit and all those administrative things as mobilization is proceeding.

SURGICAL SHORTAGE

Mr. Murtha. You say you are short on doctors in front line units. Exactly what is the extent of the shortage?

Dr. **Beary**. That is the best place to focus—since combat is surgical-intense activities—on the surgical shortage. There we are talking about 5,000 surgeons.

Mr. **Murtha**. Five thousand; a shortage of five thousand?

RESERVE SURGEON SHORTAGE

Dr. **Beary**. Yes sir, and actually the reserve surgeon shortage is more like 3,000, with the thought that the other couple of thousand should be in the active-duty forces, if I recall the figures correctly, because the specialty mixes, mixed problems they alluded to, they are short orthopedic surgeons, et cetera, right now, but still and all, it is not nearly the number that need to be in the reserves for cost-effectiveness reasons, which I laid out before.

So, if you look where we are really hurting, as far as putting rubber on the road, it is reserve surgeons, and we are 3,000 short.

Mr. **Murtha**. So this is 5,000 short service-wide?

Dr. **Beary**. Correct, all three services.

Mr. **Murtha**. And it would take you 120 days to make up that shortage?

Dr. **Beary**. At best.

Mr. **Murtha**. What is the complement of surgeons in the services now?

Dr. **Beary**. Gosh, about 11,000, I am told.

Mr. **Murtha**. So you are a third short of combat surgeons—or surgeons.

Dr. **Beary**. Eleven thousand physicians. So roughly we have——

Mr. **Murtha**. Fifty percent short?

Dr. **Beary**. Five thousand five hundred surgeons on active duty.

Mr. **Murtha**. What we are really talking about is an awful lot of young men dying before they get back to the hospital.

Dr. **Beary**. No question about it. If you don't happen to know how to use a blade, and have an operating room to put them in, they are not going to benefit from modern medicine. It is as simple as that.

Mr. **Addabbo**. The gentleman from Florida, Mr. Young.

USE OF MYCOTOXIN

Mr. **Young**. Thank you, Dr. Beary. You mentioned several times in your comments the Soviets use of mycotoxin. You made the comment you were in Thailand, and it was real. There are still some amongst us who don't believe that the Soviets are really using mycotoxins. Can you explain what you mean by that?

Dr. **Beary**. I would not say specifically the Soviets are using it in that zone. I will leave it to others to deduce client-sponsor relationships. But what I am saying is that a lot of people have gotten sick over there from something that is consistent with what happens if you give an animal mycotoxin, or if you observe what has been written in the clinical literature about mycotoxin poisoning, a fungus that grows on the grain and is originally picked up from this mold that grows on bread; and when you are somewhat short of food, you keep whatever you have got around and eat it.

People were still eating it and getting an illness characterized by severe G.I. bleeding. It does something almost like radiation; that is a simplification. Not only does it put a hole in your gut in several places, but destroys the superficial lining cells.

It also affects clotting factor 7, which thins out the blood, so not only do you have holes, but you bleed like stink. Then there are three or four other things. It is a multi-system illness, extremely puzzling until people finally figured it out and got physical evidence and interviewed some of those people who were kind of on the periphery of where it was laid down, got sick a while, but survived and did not get heavy enough exposure to kill them.

Mr. **Young**. There are different types of toxins, correct me, mycotoxins—There are a lot of different types of substances in that family. Is that correct?

Dr. **Beary**. Yes. There are about four major chemicals under consideration. Nivalenol is one of them, and if you are interested, I can supply a monograph for you, detailing the basic chemistry and our data base on that subject.

[The information follows:]

A Department of State Report on Chemical Warfare in Southeast Asia and Afghanistan dated March 22, 1982, has been provided to the Committee.

Special
Report No. 98

United States Department of State

Chemical Warfare in Southeast Asia and Afghanistan

Report to the Congress
from Secretary of State
Alexander M. Haig, Jr.,
March 22, 1982

THE SECRETARY OF STATE
WASHINGTON

TO THE CONGRESS OF THE UNITED STATES:

The years from 1914 to 1918 were among the most destructive of human life in mankind's history. Yet the sacrifice of millions brought no lasting peace. Of the elaborate structure for collective security, and the series of pacts outlawing war and controlling armaments which were negotiated in the aftermath of this First World War, little remains today. The League of Nations, the Kellogg-Briand Pact, and the Washington Naval Agreement were all swept away in the tide of aggression which culminated in a second global conflict. Almost the sole surviving monument, in the law of nations, to the twenty million dead of the First World War is the 1925 Geneva Protocol outlawing chemical and biological warfare.

Today this accord, among the oldest of arms control agreements still in force, along with another more recent such agreement banning biological and toxin weapons, is again in danger of being swept away by a new tide of aggression. Over the past seven years chemical and toxin weapons have been used, on an ever-widening scale, in genocidal campaigns against defenseless peoples. These weapons are being used for precisely the reason mankind has condemned and sought to outlaw them—because of their indiscriminate action and horrific effects. Today evidence of chemical and toxin warfare has accumulated to the point where the international community can no longer ignore the challenge.

The enclosed report on the use of chemical and toxin weapons by the Soviet Union and its Allies in Laos, Kampuchea, and Afghanistan has been prepared for submission to the Congress, to the United Nations, and to each member of the international community. The report is drawn from information made available to the United States Government since 1975. It contains the most comprehensive compilation of material on this subject available, and presents conclusions which are fully shared by all relevant agencies of the United States Government.

The international community and the world public need not rely solely on this report to form their judgment, nor only upon the United States to provide their information. Lethal chemical and toxin weapons are regrettably still in use in Laos, Kampuchea, and Afghanistan. New victims appear, new witnesses come forward, new scientific evidence is uncovered with increasing frequency. The great bulk of the information in the enclosed report could have been collected and analyzed by any interested government, international organization, or major news service. If the efforts of the United States Government to call attention to chemical warfare in Afghanistan and Southeast Asia stimulate others to discover for themselves, and join in efforts to expose the truth, this report will have served its most important purpose.

Sincerely,

Alexander M. Haig, Jr.

Chemical Warfare in Southeast Asia and Afghanistan

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This study presents the evidence available to the U.S. Government on chemical warfare activities in Laos, Kampuchea, and Afghanistan through January 1982 and examines the Soviet involvement in those activities. It is based on a massive amount of information, from a variety of sources, which has been carefully compiled and analyzed over the years. The paper is accompanied by annexes and tables that provide details of the medical evidence and sample analyses, a technical description of trichothecene toxins, and other supporting data.

INTRODUCTION

Nearly 7 years ago, reports of the use of lethal chemical weapons began to emerge from Laos. In 1978, similar reports started to come from Kampuchea, and in 1979 from Afghanistan. Early reports were infrequent and fragmentary, reflecting the remoteness of the scene of conflict and the isolation of those subjected to such attacks. In the summer of 1979, however, the State Department prepared a detailed compilation of interviews with refugees from Laos on this subject. That fall, a U.S. Army medical team visited Thailand to conduct further interviews. By the winter of 1979, the United States felt that it had sufficiently firm evidence of chemical warfare to raise the matter with the governments of Laos, Vietnam, and the Soviet Union. All three governments denied that a basis for concern over the use of chemical warfare agents existed.

Dissatisfied with these responses, and possessing further reports that lethal chemical agents were in use in Southeast Asia and Afghanistan, the U.S. Government in 1980 began to raise the issue publicly in the United Nations, with the Congress, and in other forums. In August of that year, the State Department provided extensive documentation containing evidence of chemical weapons attacks to the United Nations and also made this material publicly available. In December, as a result of efforts by the United States and other concerned nations, the U.N. General Assembly voted to initiate an international investigation into the use of chemical weapons. This investigation is still underway. To date, the U.N. investigating team has been denied admission to any of the three countries where these weapons are in use.

Despite the volume of information on chemical warfare in Southeast Asia which had become available by 1980, there remained one major unresolved issue—the exact nature of the chemical agents in use. Collection of physical samples was hindered by the remoteness of the then principal areas of conflict—as many as 6 weeks by foot to the nearest international border. Tests for known chemical warfare agents on those samples that were obtained proved consistently negative.

In order to identify the chemical agents in use, U.S. experts in late 1980 began to go back over all the reporting—as far back as 1975—looking for new clues. In particular, they sought to match the reported symptomatology of victims—which commonly included skin irritation, dizziness, nausea, bloody vomiting and diarrhea, and internal hemorrhaging—with possible causes. As a result of this review, the U.S. Government in mid-1981 began to test physical samples from Southeast Asia for the presence of toxins. These substances are essentially biologically produced chemical poisons. Although they have never before been used in war, this was a technical possibility, and it was noted that certain toxins could produce the sorts of symptoms observed in Southeast Asian victims of chemical warfare.

In August 1981, unnatural levels and combinations of lethal trichothecene toxins were detected in the first sample to be tested by the United States for such agents. This consisted of vegetation taken from a village in Kampuchea where an attack occurred in which people had died after exhibiting the symptoms described above. In succeeding months, further samples, taken from the sites of attacks in both Kampuchea and Laos, yielded similar results. So did samples of blood taken from victims of a chemical attack in Kampuchea.

Despite a continued flow of reports, dating back over 7 years, of chemical warfare in Southeast Asia and more recently Afghanistan, and despite the still mounting physical evidence of the use of trichothecene toxins as warfare agents, doubts as to the conclusive nature of the available evidence have persisted. These doubts have arisen for several reasons. For one, the evidence of the use of lethal chemical weapons has become available over a period of several years and from a variety of sources. Few governments, journalists, or interested members of the public have been exposed to all of this evidence, nor has it been available in any one place. A second difficulty has been the inevitable need for the U.S. Government to protect some of the relevant information, often gathered at personal risk to individuals who secured it, or obtained through the use of highly sensitive methods.

Chronology of Diplomatic/ International Actions on Chemical Warfare Use

October 1978

The United States called to the attention of the Lao Chargé d'Affaires in Washington the press reports alleging use of poison gas in Laos.

Assistant Secretary of State for East Asian and Pacific Affairs Holbrooke traveled to Vientiane and discussed our concerns over H'Mong human rights and other issues with Lao leaders.

Late 1978

The Department of State directed U.S. diplomatic missions in the Southeast Asia area to seek to develop information on the alleged use of poison gas against the H'Mong.

January 1979

The Department of State again informed the Lao Embassy of U.S. concerns about reports of poison gas use in Laos, coupling this with a similar demarche in Vientiane. The Lao denied the validity of the reports.

March 1979

The U.S. Representative to the 35th session of the U.N. Human Rights Commission expressed U.S. concern about the plight of the H'Mong, specifically raising the poison gas use issue.

May 1979

A State Department representative went to refugee camps in Thailand to interview H'Mong claiming to be eyewitnesses and/or victims of poison gas attacks in Laos.

A State Department representative visited Vientiane where he discussed the problem with various diplomatic missions and the senior U.N. representative in Laos. During that visit, he raised U.S. concerns about the problem directly with the Lao Foreign Ministry.

September 1979

A Department of Defense medical team was dispatched to Thailand to interview and prepare a report on H'Mong refugees having knowledge of gas attacks in Laos.

November 1979

Demarches were made to the Vietnamese in Paris and to the Soviets in Moscow expressing U.S. concerns about reports of poison gas being used against "resistance forces" in Laos. Both the Soviets and Vietnamese supported the Lao denial of the validity of the reports.

December 1979

State and Defense Department officials presented evidence of gas attacks in Laos to the House Foreign Affairs Committee.

February 1980

A bilateral demarche was made to the Soviets about U.S. concerns regarding chemical warfare use in both Laos and Kampuchea and about reports that chemical weapons were being used by the Soviets in Afghanistan. The demarche was made in Geneva in the context of the U.S./Soviet bilateral negotiations on a comprehensive prohibition of chemical weapons production, development, and stockpiling.

May 1980

An interagency team of U.S. Government political, technical, and intelligence officers was dispatched to Europe to brief the allies about the problem and to stimulate support for having an impartial international investigation conducted.

July 1980

Another bilateral demarche was made to the Soviets in the context of the U.S./Soviet bilateral chemical warfare negotiations, concerning the problem of the reported use of chemical weapons in both Southeast Asia and Afghanistan.

The Inter-Parliamentary Union adopted a resolution calling for an impartial international investigation of reports of chemical weapons use.

August 1980

The United States circulated to U.N. member states a 125-page compendium of reports and declassified intelligence information pertaining to the use of chemical weapons in Laos, Kampuchea, and Afghanistan.

The 40-nation Committee on Disarmament included language in its Annual Report to the U.N. General Assembly on the need for an impartial international investigation of the problem of chemical weapons use.

December 1980

With the full and active support of the United States, the West, and others, the U.N. General Assembly adopted a resolution (A/35/144 C) establishing a U.N. investigation, under the auspices of the U.N. Secretary General and with the assistance of qualified medical and technical experts, of reports of chemical weapons use. The vote was 78 in favor to 17 opposed, with 36 abstentions.

March 1981

In accordance with U.N. General Assembly Resolution A/35/144 C and the request of the U.N. Secretary General, the U.S. submitted detailed information pertaining to the reports of the use of chemical weapons in Southeast Asia and Afghanistan. The U.S. submission consisted of a letter summarizing the U.S. submission, the U.S. compendium of reports from August 1980, an update to that compendium covering the period through January-February 1981, the transcripts of congressional hearings held on the subject in December 1979 and in April 1980, and the texts of House and Senate resolutions condemning the use of chemical weapons.

July 1981

The United States provided further details and written responses to questions from the U.N. Group of Experts concerning the U.S. submission of March 1981.

September 1981

Secretary Haig announced, in his September 13 speech in Berlin, that the United States had obtained physical evidence of the use of lethal mycotoxins in Southeast Asia, discovered in the analysis of a leaf and stem sample obtained from the site of a chemical attack in Kampuchea.

On September 14, the United States submitted a report on the new evidence pertaining to the use of mycotoxins to the U.N. Group of Experts investigating reports of chemical weapons use.

Under Secretary of State for Political Affairs Stoessel held a press conference in Washington on September 14 and provided a detailed press backgrounder on the new evidence.

Secretary Haig raised U.S. concerns about the new evidence pertaining to the use of lethal mycotoxins in Southeast Asia and about the 1979 Sverdlovsk anthrax incident with Soviet Foreign Minister Gromyko during their bilateral consultations at the United Nations in New York.

October 1981

Following up the Haig/Gromyko discussions, detailed bilateral demarches were made to the Soviets in Washington by Acting Arms Control and Disarmament Agency Director Grey, and a followup in Moscow by the U.S. Deputy Chief of Mission, on the general subject of Soviet Biological Warfare Convention compliance and specific U.S. concerns regarding the 1979 Sverdlovsk anthrax incident and the evidence of the use of trichothecene mycotoxins in Southeast Asia. The Soviets rejected U.S. concerns once again in their formal response in November.

An interagency team of political, technical, and intelligence officers was dispatched to Europe to brief the allies about the new evidence of the use of lethal mycotoxins in Southeast Asia.

A delegation of U.S. Government political, technical, and medical experts appeared before the U.N. Group of Experts to respond to questions pertaining to the U.S. submission on September 14 of new evidence concerning the use of lethal mycotoxins in Southeast Asia.

November 1981

The U.N. Group of Experts investigating reports of chemical weapons use traveled to Thailand to visit refugee camps and interview and examine survivors and eyewitnesses of chemical attacks in Laos and Kampuchea. While there, the experts also obtained samples from alleged chemical attacks and samples of vegetation and blood from refugees exposed to chemical attacks.

Richard Burt, Director of the Bureau of Politico-Military Affairs, in testimony before the Congress, announced the results of analyses of additional samples of chemical warfare use revealing the presence of high levels of mycotoxins and the results of analyses of control samples from Southeast Asia which were found to contain *no* mycotoxins.

The United States submitted a report on its analyses of chemical warfare use samples from both Kampuchea and Laos, which were found to contain high levels of mycotoxins, to the U.N. Group of Experts investigating reports of chemical weapons use.

Demarches were made to the Vietnamese in New York and to the Lao in Vientiane regarding the evidence of the use of lethal mycotoxins in the conflicts in Kampuchea and Laos. Both the Vietnamese and the Lao rejected the evidence and denied the validity of U.S. concerns.

December 1981

The U.N. Secretary General submitted the Report of the U.N. Group of Experts investigating reports of chemical weapons use (A/36/613). The report was inconclusive and stated that the group had been unable to carry out all the actions it had *intended* (i.e., on-site visits to Afghanistan, Laos, and Kampuchea) due to the refusals to cooperate of the countries concerned, and that it had been unable to complete some of the actions it had *planned* (e.g., on-site visits to Pakistan, analysis of the samples obtained in Thailand) in the time available.

With the full and active support of the United States, the West, and others, the U.N. General Assembly adopted a resolution (A/36/96 C) extending for another year the mandate of the U.N. Secretary General's Group of Experts investigating reports of chemical weapons use. The vote on the resolution was 86 in favor to 20 opposed, with 32 abstentions.

This report represents an effort of the U.S. Government to correct the first deficiency and to ameliorate the second to the extent possible. In preparation of this report, all of the information available to the U.S. Government on chemical weapons use in Laos, Kampuchea, and Afghanistan was assembled in one place. This information was again reviewed, analyzed, cross-indexed, and organized in a coherent fashion. Based upon this comprehensive analysis, a set of conclusions were drawn, conclusions which have since been reviewed and agreed on without qualification by every relevant agency of the U.S. Government.

The evidence upon which this report is based is of several kinds, including:

- Testimony of those who saw, experienced, and suffered from chemical weapons attacks;
- Testimony of doctors, refugee workers, journalists, and others who had the opportunity to question large numbers of those with firsthand experience of chemical warfare;
- Testimony of those who engaged in chemical warfare or were in a position to observe those who did;
- Scientific evidence, based upon the analysis of physical samples taken from sites where attacks had been conducted;
- Documentary evidence from open sources; and
- Intelligence derived from "national technical means."

These sources provide compelling evidence that tens of thousands of unsophisticated and defenseless peoples have for a period of years been subjected to a campaign of chemical attacks. *Taken together, this evidence has led the U.S. Government to conclude that Lao and Vietnamese forces, operating under Soviet supervision, have, since 1975, employed lethal chemical and toxin weapons in Laos; that Vietnamese forces have, since 1978, used lethal chemical and toxin agents in Kampuchea; and that Soviet forces have used a variety of lethal chemical warfare agents, including nerve gases, in Afghanistan since the Soviet invasion of that country in 1979.*

The implications of chemical warfare in Afghanistan and Southeast Asia are painful to contemplate but dangerous to ignore. This activity threatens not only the peoples of those isolated regions but the international order upon which the security of all depends. Those who today suffer chemical warfare against their homelands are powerless to stop it. The prohibitions of international law and solemn agreement are not self-enforcing. Only an alert and outspoken world community, intent to maintain those standards of international behavior it has so painfully achieved and so tenuously established, can bring sufficient pressure to bear to halt these violations of law and treaty. It is hoped that publication of this report will be one step in this process, the end result of which will be the cessation of chemical warfare and the strengthening of the rule of law in the affairs of nations.

KEY JUDGMENTS

Laos. The U.S. Government has concluded from all the evidence that selected Lao and Vietnamese forces, under direct Soviet supervision, have employed lethal trichothecene toxins and other combinations of chemical agents against H'Mong resisting government control and their villages since at least 1976. Trichothecene toxins have been positively identified, but medical symptoms indicate that irritants, incapacitants, and nerve agents also have been employed. Thousands have been killed or severely injured. Thousands also have been driven from their homeland by the use of these agents.

Kampuchea. Vietnamese forces have used lethal trichothecene toxins on Democratic Kampuchean (DK) troops and Khmer villages since at least 1978. Medical evidence indicates that irritants, incapacitants, and nerve agents also have been used.

Afghanistan. Soviet forces in Afghanistan have used a variety of lethal and nonlethal chemical agents on *mujahidin* resistance forces and Afghan villages since the Soviet invasion in December 1979. In addition, there is some evidence that Afghan Government forces may have used Soviet-supplied chemical weapons against the *mujahidin* even before the Soviet invasion. Although it has not been possible to verify through sample analysis the specific agents used by the Soviets, a number of Afghan military defectors have named the agents brought into the country by the Soviets and have described where and when they were employed. This information has been correlated with other evidence, including the reported symptoms, leading to the conclusion that nerve agents, phosgene oxime, and various incapacitants and irritants have been used. Other agents and toxic smokes also are in the country. Some reported symptoms are consistent with those produced by lethal or sublethal doses of trichothecene toxins, but this evidence is not conclusive.

The Soviet Connection. The conclusion is inescapable that the toxins and other chemical warfare agents were developed in the Soviet Union, provided to the Lao and Vietnamese either directly or through the transfer of know-how, and weaponized with Soviet assistance in Laos, Vietnam, and Kampuchea. Soviet military forces are known to store agents in bulk and move them to the field for munitions fill as needed. This practice also is followed in Southeast Asia and Afghanistan, as evidenced by many reports which specify that Soviet technicians supervise the shipment, storage, filling, and loading onto aircraft of the chemical munitions. The dissemination techniques reported and observed evidently have been drawn from years of Soviet chemical warfare testing and experimentation. *There is no evidence to support any alternative explanation, such as the hypothesis that the Vietnamese produce and employ toxin weapons completely on their own.*

METHODOLOGY

The judgments of this study were arrived at through a rigorous analytical process.

- Every relevant piece of information on reported chemical warfare incidents was reviewed, recorded, and tabulated. Numbers of attacks and deaths were screened for possible duplication. Extensive data on the Soviet chemical and biological warfare program also were reviewed.
- All the test data on physical evidence available to the U.S. Government—including environmental samples and background controls—were reviewed.
- A scientific report on toxins, which concluded that trichothecenes probably were among the agents used in Southeast Asia, was prepared.
- The medical evidence was analyzed, drawing on all available information from Southeast Asia and Afghanistan and incorporating the findings of a Department of Defense medical team, which concluded that at least three types of agents were used in Laos.
- Extensive consultations were held with government and nongovernment scientists and medical authorities, many of whom were asked to review the evidence. Experts from other countries also were consulted.

After the data were organized to permit comparative analysis, the study focused on three separate questions.

- Have lethal and other casualty-producing agents been used in Southeast Asia and Afghanistan?
- What are these agents, and how and by whom are they employed?
- Where do these agents originate, and how do they find their way to the field?

Although the evidence differs for each country, the analytical approach was the same. Testimony of eyewitnesses—date, place, and type of attack—was matched against information from defectors, journalists, international organizations, and sensitive information that often pinpointed the time and place of chemical attacks. In addition, information on military operations in the areas where chemical attacks had been reported was examined to establish whether air or artillery strikes took place or whether there was fighting in the areas where chemical agents reportedly were used. *In all three countries, instances were identified in which eyewitness accounts could be correlated directly with information from other sources on military operations in progress.*

There is no evidence of any systematic propaganda campaign by either the H'Mong in Laos or the Afghan resistance forces to promote the allegation that chemical agents have been used on their people. On the other hand, there were early indications that Pol Pot's Democratic Kampuchean resistance did engage in an organized propaganda campaign on chemical agent use. These indications made U.S. Government analysts cautious about accepting DK allegations, which increased markedly after the chemical attacks in Laos were publicized. For Kampuchea, therefore, special efforts were taken to confirm such allegations by analyzing sources of information that in no way could be considered part of a propaganda or deception campaign.

DISCUSSION OF FINDINGS

In September 1981, the U.S. Government declared publicly that toxins—poisonous chemical substances extracted from biological material—probably were the mysterious lethal agents used for many years in Laos and Kampuchea. The statement was prompted by the discovery of high levels of trichothecene toxins in a vegetation sample collected shortly after a March 1981 Vietnamese chemical attack in Kampuchea. This conclusion, however, rested on a much broader base of evidence than analysis of one sample.

By April 1980, the U.S. Government had already concluded that lethal agents almost certainly had been used against H'Mong tribespeople in Laos. There was less certainty then about the use of lethal agents in Kampuchea, mainly because of the already mentioned suspicions about the propaganda campaign of Pol Pot's Democratic Kampuchean forces, although their claims subsequently were shown to be valid. It was also concluded that chances were about even that lethal agents had been used in Afghanistan. There was little doubt by April 1980 that riot-control agents and some form of incapacitants had been used in all three countries. Since that April 1980 assessment, additional evidence has allowed a much firmer conclusion. There is now no doubt that casualties and deaths have resulted from chemical attacks in all three countries.

What Chemical Agents Are Being Used?

As soon as it was determined that chemical agents had been used, an effort was made to identify the specific agents. To do this it was necessary to collect and analyze at least one of the following: environmental samples contaminated with agents, the munitions used to deliver agents, or biological specimens from victims of an attack. A study by medical-toxicological experts of symptoms exhibited by individuals exposed to toxic agents provides a good indication of the general class of chemical agent used. Thus, the range of clinical manifestations from chemical agents, as reported by a U.S. Army investigative team in Thailand, resulted in the determination that nerve agents, irritants such as CS, and highly toxic hemorrhagic chemicals or mixture of chemicals were used in Laos.

Other medical-toxicological personnel who reviewed the evidence and conducted their own investigation reached the same conclusion. They further indicated that toxins such as the trichothecenes were a probable cause of the lethal hemorrhaging effect seen in Kampuchea and Laos. In many cases, symptoms reported by the Democratic Kampuchean forces in Kampuchea and the *mujahidin* in Afghanistan were similar to those reported by the H'Mong in Laos. Moreover, symptoms reported from Afghanistan and Kampuchea indicated that a highly potent, rapid-acting, incapacitant "knockout" chemical also was being used. *Mujahidin* victims and witnesses to chemical attacks reported other unusual symptoms, including a blackening of the skin, severe skin irritation along with multiple small blisters and severe itching, severe eye irritation, and difficulty in breathing—all of which suggests that phosgene oxime or a similar substance was used.

Collecting samples possibly contaminated with a toxic agent during or after a chemical assault is difficult under any circumstances but particularly when the assault is against ill-prepared people without masks or other protective equipment. Obtaining contaminated samples that will yield positive traces of specific chemical agents depends on many factors. These include the persistency of the chemical, the ambient temperature, rainfall, wind conditions, the medium on which the chemical was deposited, and the time, care, and packaging of the sample from collection to laboratory analysis.

Many traditional or known chemical warfare agents are nonpersistent and disappear from the environment within a few minutes to several hours after being dispersed. Such agents include the nerve agents sarin and tabun; the blood agents hydrogen cyanide and cyanogen chloride; the choking agents phosgene and diphosgene; and the irritant phosgene oxime. Other standard chemical warfare agents—such as the nerve agents VX and thickened soman and the blistering agents sulfur mustard, nitrogen mustard, and lewisite—may persist for several days to weeks depending on weather conditions.

The trichothecene toxins have good persistency but may be diluted by adverse weather conditions to below detectable concentrations. To maximize the chances of detection, sample collections need to be made as rapidly as possible after a chemical assault; as with many agents, this means minutes to hours. Under the circumstances of Southeast Asia and Afghanistan, such rapid collection has simply not been possible. Although many samples were collected, few held any realistic prospect of yielding positive results. It is fortunate that trichothecenes are sufficiently persistent and in some cases were not diluted by adverse weather conditions. Thus we were able to detect them several months after the attack.

Samples have been collected from Southeast Asia since mid-1979 and from Afghanistan since May 1980. To date, about 50 individual samples—of greatly varying types and usefulness for analytical purposes—have been collected and analyzed for the presence of known chemical warfare agents, none of which has been detected. Based on recommendations by medical and toxicological experts and findings of investigators from the U.S. Army's Chemical Systems Laboratory, several of the samples have been analyzed for the trichothecene group of mycotoxins. Four samples, two from Kampuchea and two from Laos, were found to contain high levels of trichothecene toxins. In addition, preliminary results of the analysis of blood samples drawn from victims of an attack indicate the presence of a trichothecene metabolite of T-2, namely HT-2.

A review of all reports indicates the use of many different chemical agents, means of delivery, and types of chemical attacks. The use of trichothecene toxins has been identified through symptoms and sample analysis. In some cases, however, the symptoms suggest other agents, such as nerve gas, which have not been identified through sample analysis. Significant differences as well as similarities have surfaced in the reports from the three countries. The evidence from each country, therefore, is described separately, with attention drawn to similarities where appropriate.

Laos

Reports of chemical attacks against H'Mong villages and guerrilla strongholds in Laos date from the summer of 1975 to the present (see Table 1). Most of the reports were provided by H'Mong refugees who were interviewed in Thailand and the United States. More than 200 interviews were carried out variously by U.S. Embassy officials in Thailand, a Department of Defense team of medical-toxicological experts (see Annex B), U.S. physicians, Thai officials, journalists, and representatives of international aid and relief organizations. According to the interviews, Soviet AN-2 and captured U.S. L-19 and T-28/41 aircraft usually were employed to disseminate toxic chemical agents by sprays, rockets, and bombs. In some cases, Soviet helicopters and jet aircraft were said to have been used.

The reports describe 261 separate attacks in which at least 6,504 deaths were cited as having resulted directly from exposure to chemical agents. The actual number of deaths is almost certainly much higher, since the above figure does not take account of deaths in attacks for which no specific casualty figures were reported. The greatest concentration of reported chemical agent use occurred in the area where the three provinces of Vientiane, Xiangkhoang, and Louangphrabang adjoin (see map). This triborder region accounted for 77% of the reported attacks and 83% of the chemical-associated deaths. Most of the reported attacks took place in 1978 and 1979. Since 1979, the incidence of chemical attacks appears to have been lower, but reported death rates among unprotected and untreated victims were higher. Only seven chemical attacks were reported in the fall of 1981, for example, yet 1,034 deaths were associated with those incidents.

The medical symptoms reportedly produced by the chemical agents are varied. According to knowledgeable physicians, the symptoms clearly point to at least three types of chemical agents—incapacitant/riot-control agents, a nerve agent, and an agent causing massive hemorrhaging. The last-named was positively identified as trichothecene toxins. This was announced publicly by Secretary Haig in September 1981.

In a number of the refugee reports, eyewitnesses described attacks as consisting of "red gas" or a "yellow cloud."

TABLE 1

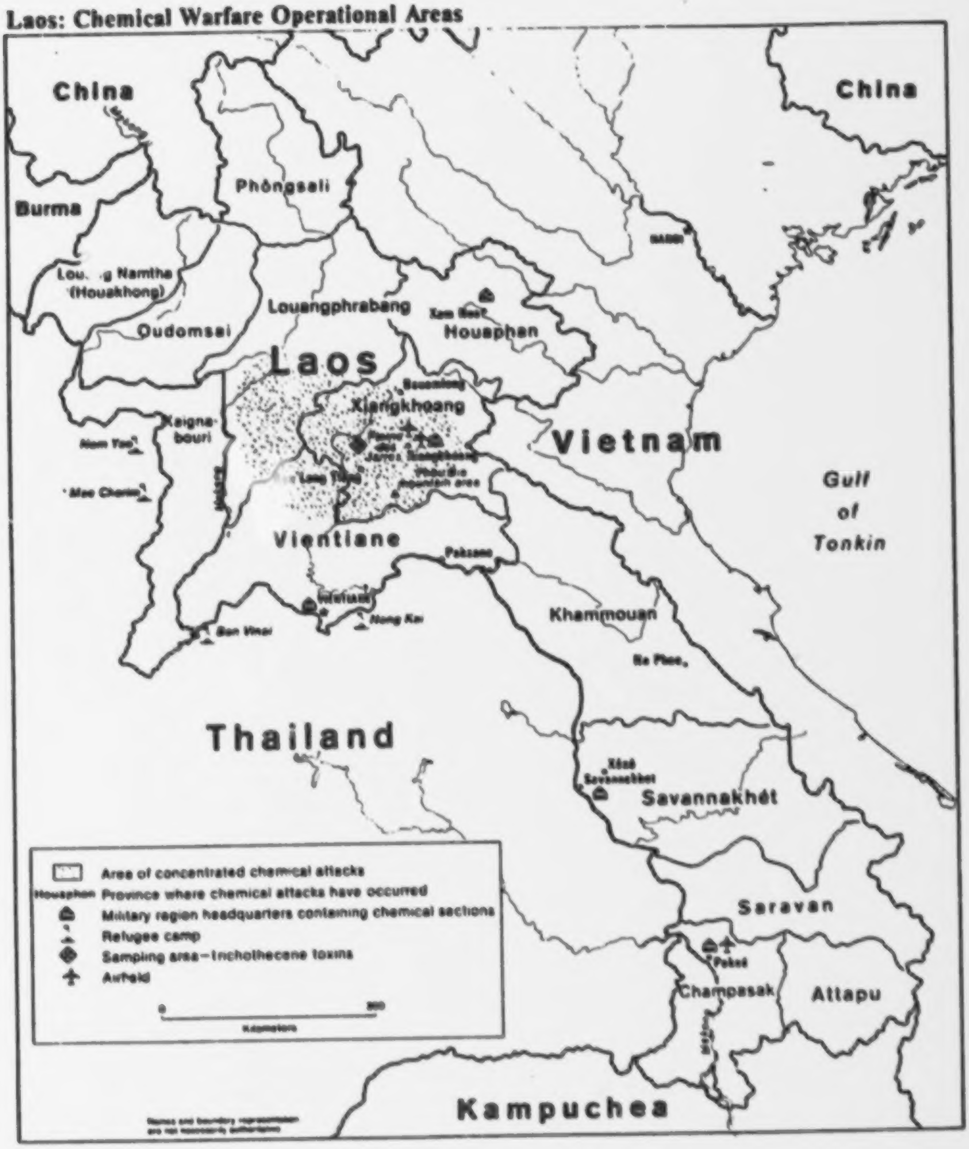
Laos: Summary of Reported Chemical Attacks and Associated Deaths, 1975-81

Time Period	Area	Attacks[a]	Deaths[b]
Summer 1975	Vientiane	2	25 +
Fall 1976	Phou Bia	8	10
	Savannakhet	1	10
Winter 1976-77	Phou Bia	2	16
Spring 1977	Phou Bia	6	66 +
	Khammouan	2	1
Summer 1977	Phou Bia	6	95
Fall 1977	Phou Bia	1	25
Winter 1977-78	Phou Bia	10	1,328 +
	Savannakhet	6	224
Spring 1978	Phou Bia	34	969 +
Summer 1978	Phou Bia	22	664 +
Fall 1978	Phou Bia	19	572
Winter 1978-79	Phou Bia	5	15 +
Spring 1979	Phou Bia	36	257 +
Summer 1979	Phou Bia	5	239 +
Fall 1979	Phou Bia	10	56
	Xaignabouri	2	24 +
Winter 1979-80	Phou Bia	4	10 +
Spring 1980	Phou Bia	3	24
Summer 1980	Phou Bia	6	187 +
Fall 1980	Xaignabouri	1	12
	Phou Bia	7	88 +
	Savannakhet	3	1 +
Winter 1980-81	Xaignabouri	2	57
	Phou Bia	4	82
	Vientiane	1	1 +
Spring 1981	Houaphan	2	?
	Phou Bia	7	218
	Vientiane	1	—
Summer 1981	Phou Bia	1	?
Fall 1981	Phou Bia	4	500 +
	Khammouan	3	534 +
		226	6,310 +

[a] This tabulation omits 35 attack sites accounting for 194 deaths which could not be geographically located in the reports. The totals overall were 261 attacks and more than 6,504 deaths.

[b] A plus sign indicates that the report(s) of deaths gave a minimum figure. In some cases (shown with a question mark) deaths were reported, but no number was given. Other reports (signified with a dash) gave no information on fatalities.

Laos: Chemical Warfare Operational Areas


China
China
Burma
Phôngsali
Louang Namtha
(Houakhong)
Oudomsai
Louangphrabang
Sam Neua
Houaphan
Laos
Xaignabouri
Xiangkhoang
Plaine des Jarres
Long Tieng
Phou Bia mountain area
Vientiane
Paksane
Nong Kai
Ban Vinai
Vietnam
Gulf of Tonkin
Khammouan
Thailand
Savannakhét
Saravan
Pakse
Champasak
Attapu
Kampuchea
Area of concentrated chemical attacks
Houaphan Province where chemical attacks have occurred
Military region headquarters containing chemical sections
Refugee camp
Sampling area—trichothecene toxins
Airfield
0
Kilometers

Red gas was considered the more lethal. A former Lao Army captain stated that the "red gas" caused the H'Mong to die within 12 hours. An employee of an international organization interviewed victims of a September 15, 1979 attack in which nonlethal rounds preceded an attack by five or six "red gas" bombs that covered a 500-meter area. Persons within 30-100 meters of the circle died in 10 minutes after severe convulsions. Others had headaches, chest pains, and vomiting but did not die.

Every qualified interrogator who systematically interviewed the H'Mong refugees concluded that they had been subjected to chemical attacks. A U.S. Government medical team returned from Thailand in 1979 convinced that several unidentified chemical warfare agents had produced the symptoms described by the refugees. This evidence was expanded by testimony from a variety of sources, including that of a Lao pilot who flew chemical warfare missions before defecting in 1979. His detailed description of the Lao, Vietnamese, and Soviet program to use chemical agents to defeat the H'Mong resistance helped dispel any lingering suspicions that the refugees had fabricated or embellished the stories. The Lao pilot described the chemical rocket he had fired as having a more loosely fitting warhead than a conventional rocket. (His account appears in Annex A.)

In 1977, a H'Mong resistance leader found a U.S. 2.75-inch rocket* with a modified Soviet warhead that fits the Lao pilot's description. Other sources reported that U.S. 2.75-inch rockets were fitted with Soviet-supplied lethal chemical warheads by Soviet and Vietnamese technicians at facilities in Vientiane as well as in Xiangkhoang and Savannakhet Provinces. Munitions storage facilities suitable for storing chemical agents and weapons have been identified in each of these provinces. The aircraft types—AN-2s, L-19s, and T-28/41s—most often reported by the H'Mong refugees as being used to deliver chemical agents have been identified as based on airfields in northern Laos throughout this period. A special Lao Air Force unit is responsible for chemical rockets. The unit is commanded by a Soviet-trained Lao and has a Soviet rocket expert attached as an adviser.

Obtaining additional data for Laos has been difficult because of the nature of the fighting there. There have been few major operations. The reports reflect numerous minor engagements between the opposing forces. In nearly all cases, the chemical use reported has been directed against villages, in the absence of obvious combat operations. This lends support to the Lao pilot's claim that the Vietnamese and Lao military commands were engaged in a "H'Mong extermination" campaign.

Of particular interest are the circumstances surrounding the collection of two physical samples found to contain lethal toxins. The first was collected after a March 13, 1981 attack on a village between the villages of Muong Chai and Phakhao in the Phou Bia region. In this case, a large two-engine plane reportedly sprayed a mist of a moist, yellow, sticky substance; two villagers and all village animals died. The second sample is from Ban Thonghak, another village in the Phou Bia region, collected following an April 2, 1981 attack in which a jet aircraft reportedly sprayed a yellow substance; 24 of the 450 villagers died. In the spring of 1981, seven separate chemical attacks, resulting in 218 deaths, were reported to have occurred in this region.

It is significant that these attacks took place following a period of escalation in overall resistance activities in the Phou Bia area in the winter of 1980-81. During that period, joint suppression operations by Lao People's Liberation Army and Vietnamese Army forces had achieved only limited success, perhaps spurring both forces on to greater effort. The more intense use of chemical weapons may have been part of this effort.

Evidently the fact that chemical agents were being used in Laos was not widely known among units of the Lao Army. In June 1981, a group of refugees from a village in Vientiane Province reached Thailand and described attacks against them carried out a month earlier by helicopters "dropping poison" into their water supply. Lao field units subsequently entered the village and were surprised at the sight of many villagers still suffering from symptoms of acute poisoning. According to a villager, when the Lao military personnel saw the "small yellow grains" spread around the village, they were convinced that toxic chemicals had been used on the village and requested medical assistance for those villagers still suffering from nausea and bloody diarrhea.

In a December 15, 1981 press conference in Beijing, former Lao Health Ministry Bureau Director Khamsengkeo Sengsathit—who had defected to China—confirmed that chemical weapons were being used "in the air and on the ground" in Laos, killing "thousands." He asserted that the Vietnamese alone were using such weapons, keeping the matter secret from the Lao. He also stated that 3,000 Soviet advisers were in Laos and "have taken control" of the Lao Air Force, while 40,000-50,000 Vietnamese troops had "reduced Laos to the status of a colony."

Kampuchea

Since October 1978, radio broadcasts, press releases, and official protests to the United Nations by the Democratic Kampuchea leadership have accused the Vietnamese and the Hanoi-backed People's Republic of Kampuchea regime of using Soviet-made lethal chemical agents and weapons against DK guerrilla forces and civilians. DK allegations for a time were the only source of information concerning chemical warfare attacks in Kampuchea. In November 1979, however, the guerrilla forces of the Khmer People's National Liberation Front reported that the Vietnamese had attacked them with a tear gas which, from their description, resembled the riot-control agent CS. Subsequently, Thai officials, Democratic Kampuchea informants and refugees, Vietnamese Army defectors, U.S. and Thai medical personnel, officials of international aid and relief organizations, and Canadian and West European officials also have implicated the Vietnamese in the offensive use of lethal and incapacitating chemical agents in Kampuchea.

There are reports of 124 separate attacks in Kampuchea from 1978 to the fall of 1981 in which lethal chemicals caused the deaths of 981 persons (see Table 2). The mortality figure represents a minimum because some reports state only that there were deaths and do not provide a number. The earliest reports cite attacks in Ratanakiri Province, in the northeastern corner of the country (see map). Reports from 1979 to the present show the use of lethal chemicals primarily in the provinces bordering Thailand. The greatest use of chemical agents apparently has been in Battambang Province, with 51 reported incidents; Pursat Province has experienced the next highest frequency, with 25

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* During withdrawal of U.S. forces from Vietnam, thousands of these fell into Vietnamese hands.

TABLE 2

Kampuchea: Summary of Reported Chemical Attacks and Associated Deaths, 1978–81

Time Period	Area	Attacks	Deaths[a]
1978	Ratanakiri	5	?
Summer 1979	Kompong Speu	4	37
Fall 1979	Siem Reap	1	—
	Battambang	4	22 +
	Pursat	2	1 +
	Koh Kong	2	6 +
	Kampot	1	3
	Kompong Chhnang	2	118
Winter 1979–80	Battambang	12	64 +
	Pursat	5	21 +
	Koh Kong	2	4
Spring 1980	Battambang	3	20 +
	Pursat	8	24 +
	Koh Kong	5	13
Summer 1980	Siem Reap	1	82 +
	Battambang	3	23 +
	Pursat	2	7
	Koh Kong	3	—
Winter 1980–81	Battambang	8	—
	Pursat	2	3
Spring 1981	Preah Vihear	1	—
	Battambang	12	163 +
	Pursat	3	42 +
	Koh Kong	1	—
	Kampot	1	—
Summer 1981	Battambang	3	7 +
	Kompong Thom/Cham	1	—
Fall 1981	Siem Reap	16	305
	Battambang	6	16
	Pursat	3	—
	Koh Kong	1	—
	Kampot	1	—
		124	981

[a] A plus sign indicates that the report(s) of deaths gave a minimum figure. In some cases (shown with a question mark) deaths were reported, but no number was given. Other reports (signified with a dash) gave no information on fatalities.

reported incidents. These numbers are consistent with the overall high level of military activity reported in the border provinces.

A review of information from all sources provides direct and specific support for 28 of 124 reported attacks. There is, in addition, some evidence that in all reported instances some form of attack took place. This evidence includes reports of troop movements, supply transfers, operational plans, postoperation reporting, and air activity. It indicates that military activity took place at the time and place of every incident reported to involve lethal chemical agents. In some cases, it provides strong circumstantial evidence that the action involved chemical substances—for example, the movement of chemicals and personal protection equipment into the area.

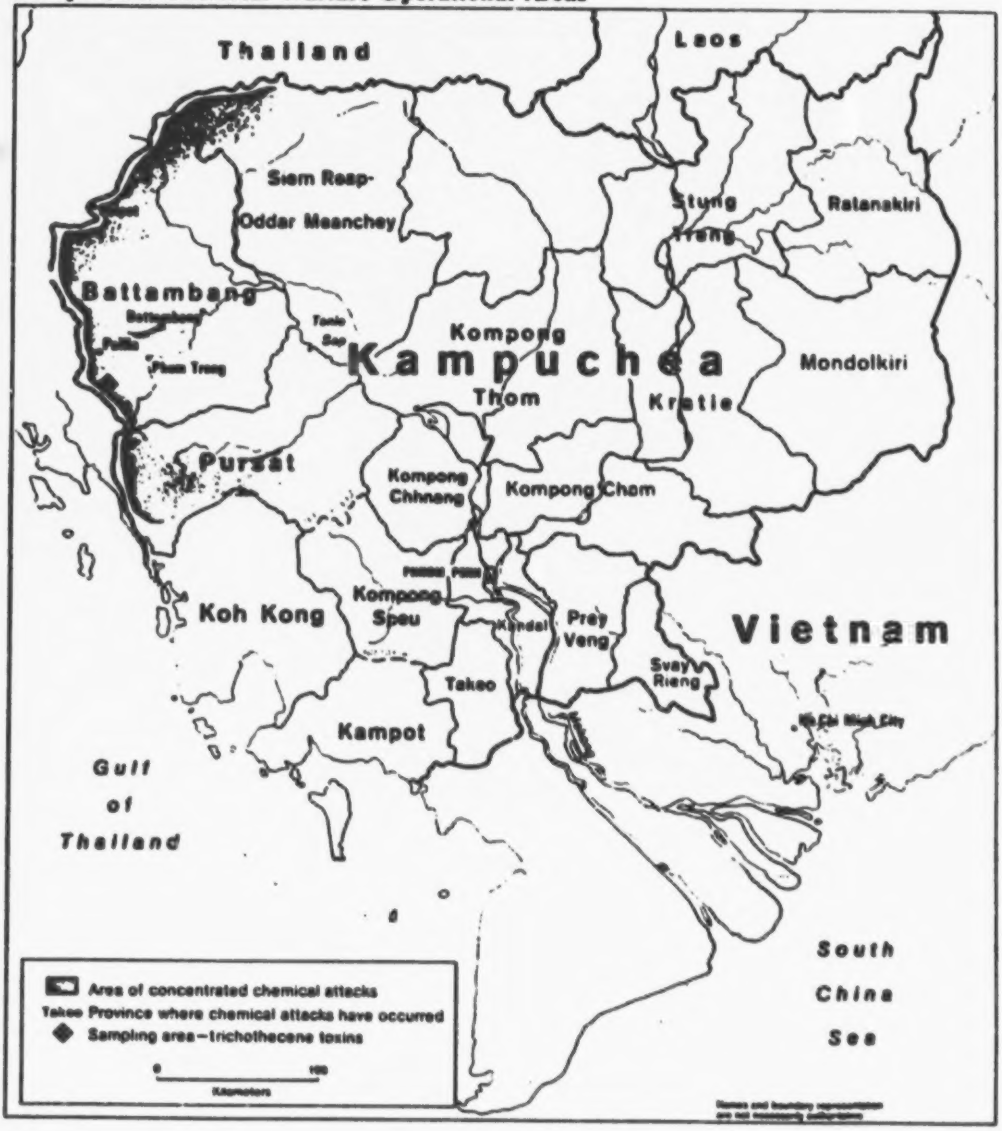
There is no doubt that in late 1978 and 1979 the Vietnamese, and what later became the People's Republic of Kampuchea forces, made at least limited use of riot-control chemicals and possible incapacitating agents against both Communist and non-Communist guerrilla forces in Kampuchea. The chemicals used probably included toxic smokes, riot-control agents such as CS, and an unidentified incapacitating agent that caused vertigo and nausea and ultimately rendered victims unconscious with no other signs or symptoms.

In March 1979, during Vietnamese operations against Khmer Rouge forces in the Phnom Melai area, a Vietnamese Army private, who later defected, observed the following activities related to chemical warfare. During the fighting, all regiment (740th) troops were issued gas masks. However, the 2nd Battalion, a "border defense unit," was not issued masks. This unit was in the Phnom Melai area and was virtually surrounded by Khmer Rouge forces. At another point in the battle, the regiment's troops were ordered to don masks. The Vietnamese Army private reported that he saw two Soviets (Caucasians) fire a DH-10 (a hand-held weapon identified by the private's comrades). He was about 50 meters from the firing point. The weapon at impact, which he was able to observe from his position, gave off clouds of white, gray, and green gas/smoke. His signal unit subsequently passed a message reporting that there were 300 dead, including the unprotected Khmer Rouge and Vietnamese of the border defense forces' 2nd Battalion. The corpses reportedly had traces of white and green powder on their faces and clothes. Their faces were contorted, with eyes wide open. No blood was seen. (A H'Mong resistance leader described an incident in 1981 in which two Soviet soldiers fired a hand-held weapon that dispersed a similar lethal agent.)

Starting in February 1980, reports revealed that the Vietnamese were using 60 mm mortars, 120 mm shells, 107 mm rockets, M-79 grenade launchers filled with chemical agents, as well as munitions delivered by T-28 aircraft. According to the DK, the chemicals used were green and yellow and powderlike in appearance. In some instances the gas was described as yellow or white. The symptoms described were tightening of the chest, disorientation, vomiting, bleeding from the nose and gums, discoloration of the body, and "stiffening" of the teeth. In July 1980, the DK described artillery attacks that produced a black smoke causing itchy skin, weakness, skin lesions, and in some cases decaying skin and blisters. In December 1980, the Vietnamese were once again firing chemical artillery shells, and it was believed that poison chemicals were being brought into Thailand's border region. By March 1981, the Democratic Kampuchea forces had reported numerous attacks directed against them with lethal chemical agents and the poisoning of food and water.

U.S. analysis of contaminated vegetation samples collected within hours of a March 1981 attack showed high levels of three trichothecene toxins in a combination that would not be expected to be found in a natural outbreak in this

Kampuchea: Chemical Warfare Operational Areas


Thailand
Laos
Siem Reap-
Oddar Meanchey
Stung
Treng
Ratanakiri
Battambang
Battambang
Pailin
Phum Treng
Tonle
Sap
Kompong
Kampuchea
Thom
Mondolkiri
Kratie
Pursat
Kompong
Chhnang
Kompong Cham
Phnom Penh
Kompong
Speu
Koh Kong
Kandal
Prey
Veng
Vietnam
Svay
Rieng
Takeo
Kampot
Ho Chi Minh City
Gulf
of
Thailand
South
China
Sea
Area of concentrated chemical attacks
Takeo Province where chemical attacks have occurred
Sampling area—trichothecene toxins
0
100
Kilometers

environment. At the levels found on the vegetation, the three trichothecenes would produce vomiting, skin irritations and itching, and bleeding symptoms. Water samples taken from the area of the same attack also contained trichothecene toxins. Control samples from nearby areas confirmed that these toxins were not indigenous to the locale. (Details on the sample analysis appear in Annex D.)

There also is ample evidence of military activity at the place and time of the acquisition of the samples. Vietnamese Army defectors described plans for multiregimental sweep operations to be conducted along the border in northwestern Battambang Province before the end of the dry season in May. Actual fighting, however, continued to be characterized by guerrilla tactics on both sides, including, according to a Vietnamese Army defector, "staging ambushes, laying minefields, and use of deception." Indeed, Democratic Kampuchean resistance forces were ordered to avoid large-scale operations and to limit combat operations to scattered sapper attacks. Such information is consistent with other reports of Vietnamese Army forces spreading toxic chemicals in streams, along roadsides, and around villages and firing toxic gas shells against enemy positions. The Phnom Melai sector, where Phnom Mak Hoeun is located, was described as an "anthill of DK activity," and actions reported during March were "sporadic firefights" around Phnom Mak Hoeun involving the Vietnamese Army's 2nd Battalion, 2nd Border Security Regiment.

In Kampuchea, as in Laos, the period of late 1980 through spring 1981 was one of intensified Vietnamese operations to suppress the resistance and break the will of the opposing forces. In July 1981, trucks loaded with blue sacks filled with white powder were being moved by the Vietnamese into the Pailin, Battambang, and Siem Reap areas. Vietnamese soldiers told villagers that the chemicals caused blindness, hemorrhaging, and vomiting.

Additional evidence was derived from blood samples drawn from victims of Vietnamese chemical use that occurred on September 19, 1981 in the Takong area. Takong is in the same general area as Phnom Mak Hoeun—that is, the central region of Battambang Province near the Thai border. Although there is no independent confirmation of the accounts of the attack, American medical personnel visiting a DK field hospital examined the victims and obtained the blood samples. Analyses of these samples suggested the use of trichothecenes. (Blood analysis results also appear in Annex D.)

According to the DK soldiers affected, the chemicals used in the September 19 Takong attack were dispersed as a gas or powder and as a poison to water. The gas or powder was released from containers by tripwires in the area of the rear forces. This description is consistent with the other reporting for this area and time.

Thailand also has been concerned about chemical attacks against its own forces and civilian population. In March 1981, one Thai died from poisons placed by Vietnamese troops, and others became ill after suffering bleeding from the nose and mouth. In May 1981, Thai forces captured two Vietnamese as they were attempting to poison the water supply in a Kampuchean relocation camp in Thailand. The poison was analyzed by the Thai and found to contain lethal quantities of cyanide. Many reports indicate that it is common practice for Vietnamese units to poison water and food used by the DK forces.

The Soviet Connection in Southeast Asia

Much of the Soviet interest in Southeast Asia is dictated by their rivalry with China and their close alliance with the Vietnamese. Regional Communist forces have been strengthened to contain Chinese influence and deter military incursions. The area of northern Laos between Vientiane and the Chinese border—where the H'Mong hill tribes have stubbornly resisted and harassed Vietnamese forces—is strategically significant to the Vietnamese because it adjoins a hostile China. In the last few years the Vietnamese have expanded their military construction and strengthened their forces in Laos which now number 50,000.

Initially there was a tendency to interpret the Soviet role as strictly advisory. Now, however, there is considerable evidence to suggest that the Soviets are far more involved in the Lao and Vietnamese chemical warfare program than was assumed earlier. An estimated 500 Soviet military advisers provide maintenance assistance and technical support, actually running the Lao Air Force, and give advanced training to Lao personnel in conventional as well as chemical warfare.

The Soviets have had advisers and technicians working in Vietnam and Laos for many years and in Kampuchea since 1979. However, it was not until early 1979 that evidence surfaced on the Soviets' direct involvement in chemical warfare activities. For example, the Lao Army chemical section in Xiangkhoang prepared Soviet-manufactured chemical items for inspection by a Soviet military team on February 7, 1979. A seven-man team of Soviet chemical artillery experts, accompanied by Lao chemical officers, inspected chemical supplies and artillery rounds at the Xeno storage facility in Savannakhet on June 1, 1979. One report stated that the Soviets would be inspecting the same chemical explosives used to suppress the H'Mong in the Phou Bia area.

In addition to this information, H'Mong accounts have described Soviet advisers and technicians participating in the preparation of the chemical weapons for the attacks on the H'Mong villages. H'Mong eyewitnesses claim to have seen "Caucasian pilots" in aircraft, and one H'Mong report states that a downed Soviet aircraft was discovered in the jungle along with a dead Soviet pilot. In November 1981, a H'Mong resistance leader described how Soviet soldiers fighting with the Lao Army fired handheld weapons that dispersed a lethal agent over a 300-meter area. Several Lao defectors have reported seeing Soviet advisers present when aircraft were loaded with chemical-agent rockets.

In July 1981, a Soviet shipment of wooden crates filled with canisters described by the Vietnamese as "deadly toxic chemicals" was unloaded at the port of Ho Chi Minh City. This incident further corroborates the judgment that the Soviets have been shipping chemical warfare materiel to Vietnam for some time. During the unloading, Vietnamese soldiers were caught pilfering the wooden crates containing the canisters. The soldiers dropped one of the wooden cases and intentionally broke it open; they wanted to determine if its contents were edible or valuable for pilferage. When a soldier broke the nylon seal and attempted to pry open a canister, special security personnel isolated the area and told the soldiers that the canisters contained deadly toxic substances from the U.S.S.R. The wooden crates, each weighing 100 kilograms, were loaded on military trucks and taken under special guard to the Long Binh storage depot.

This incident is only one in a series involving Soviet chemical warfare materiel dating back several years. In 1975, for example, a Soviet captain of a diving support craft engaged in salvaging a sunken ship in the Black Sea, which had been transporting Soviet military supplies to Vietnam, said that his divers came in contact with toxic chemicals, and a special Soviet salvage unit took over the operation after the divers became very ill. The salvage operations, conducted by the ASPTR-12 Salvage, Rescue, and Underwater Technical Services Group based in Odessa, were monitored by high-ranking Soviet naval officers.

The operation began with the removal of tractors and helicopters which cluttered the deck of the ship and prevented access to hold hatches. Once the surface clutter was removed, the divers attempted to enter the holds. At this point, however, operations had to be suspended temporarily because of a violent outbreak of chemical poisoning among the divers. Contact with the unidentified chemicals resulted in reddish welts 1-3 centimeters in diameter on exposed skin and was accompanied by severe headaches, nausea, and a general feeling of fatigue. The symptoms disappeared on their own after 3-5 days of rest. At this point, military authorities took over from the ASPTR-12 divers, who were temporarily withdrawn from the project. Soviet naval divers were sent down and determined that the source of poisoning was chemical seepage from an open hatch of one of the holds. The hatch was promptly sealed, and the salvage operation was once more assigned to ASPTR-12 divers who resumed work and retrieved ammunition and an assortment of other equipment. Once this was done, the military took over permanently. The ship was raised without removing the poisonous chemicals and towed to an Odessa shipyard where the chemicals were unloaded by military personnel. The ship was then broken up and scrapped. The entire operation took about 3 years to complete.

As another example of Soviet involvement, two Vietnamese corporals, from the 337th and 347th Vietnamese Army divisions, have stated that Soviet-supplied chemical weapons were stored in caves near Lang Son in February 1979. Although their Vietnamese units were issued gas masks, they were told that Soviet-supplied chemical weapons would not be used unless the Chinese initiated chemical warfare. As late as February 1981, a team of uniformed Soviet military advisers was attached to the corps headquarters. The team leader was a senior Soviet colonel. The Soviets were involved in training corps personnel in the use of Soviet-supplied weapons and equipment, including chemical artillery shells and gas masks. The Soviet team often inspected defensive positions and observed training maneuvers.

Afghanistan

Attacks with chemical weapons against the *mujahidin* guerrillas in Afghanistan were reported as early as 6 months before the Soviet invasion on December 27, 1979. The information specifies that Soviet-made aircraft were used to drop chemical bombs, with no clear identification of Soviet or Afghan pilots or of the specific agents used. On November 16, 1979, chemical bombs reportedly were dropped along with conventional air munitions on targets in Farah, Herat, and Badghisat Provinces by Soviet-supplied Afghan IL-28 bombers based at Shindand. A number of Afghan military defectors have stated that the Soviets provided the Afghan military with chemical warfare training

TABLE 3

Afghanistan: Summary of Reported Chemical Attacks and Associated Deaths, 1979-81

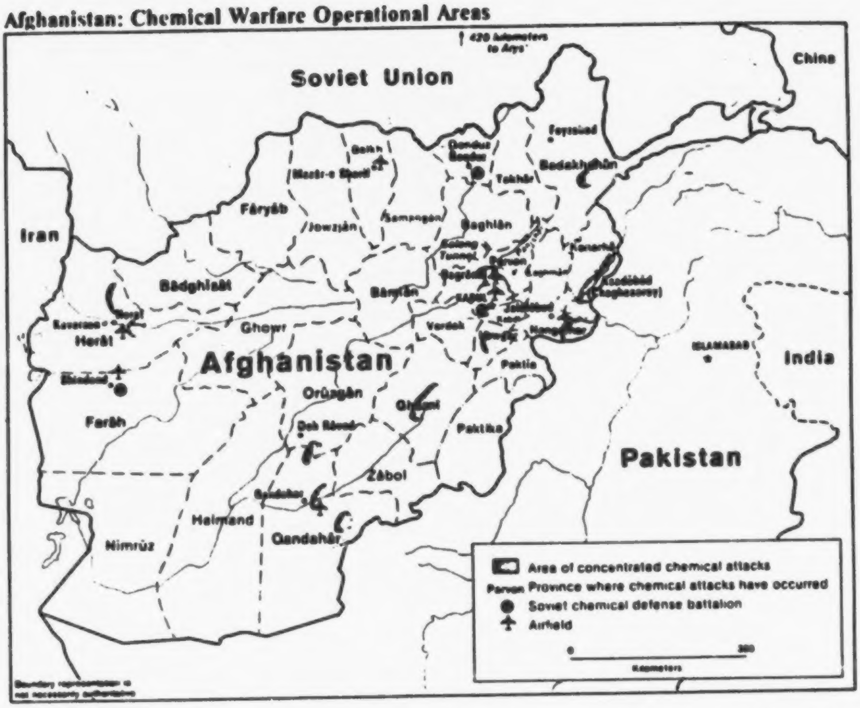
Time Period	Province	Attacks[a]	Deaths[b]
Summer 1979	Badakhshan	1	2.000[c]
	Parvan	1	8
	Bamian	1	—
Fall 1979	Konarha	1	350
	Farah	1	?
	Herat	1	?
	Badghisat	1	?
Winter 1979-80	Badakhshan	5	130 +
	Takhar	1	—
	Konarha	2	10 +
	Nangarhar	1	?
	Be[illegible]	1	?
Spring 1980	Badakhshan	1	1 +
	Konarha	2	?
	Oruzgan	1	—
	Qandahar	1	—
Summer 1980	Nangarhar	2	1
	Vardak	1	3
	Herat	2	300 +
	Kabul	2	--
Fall 1980	Konarha	1	?
	Lowgar	1	4
	Ghazni	1	100
Winter 1980-81	Lowgar	2	?
Spring 1981	Parvan	2	—
	Lowgar	3	—
	Ghazni	2	?
	Qandahar	1	—
Summer 1981	Nangarhar	2	?
	Qandahar	2	16
	Herat	1	119
		47	3.042

[a] This tabulation omits some attacks described in the text because they could not be dated or located with high confidence

[b] A plus sign indicates that the report(s) of deaths gave a minimum figure. In some cases (shown with a question mark) deaths were reported, but no number was given. Other reports (signified with a dash) gave no information on fatalities

[c] The quality of reporting for the period is not as good as the information that became available after the Soviet invasion. We are concerned that this unusually high figure may reflect an accumulation of deaths from several incidents and not the single attack indicated. For example, reports were received describing over 1 000 deaths in Bamian Province in June-July 1979. An Afghan military officer reported seeing the bodies of many mujahidin in Panjsher Valley in August 1979 after a chemical attack and stated that many had been killed. An Afghan civil engineer reported hearing that many deaths resulted from a chemical attack in the Jalalabad area also in the summer of 1979. Because we could not obtain supporting evidence, these reports were not included. Although sufficient evidence exists to conclude that Afghan Government forces used chemical weapons, mainly bombs, from June to December 1979, no survivors or eyewitness accounts of these attacks are available to determine the type of agent and symptoms

Afghanistan: Chemical Warfare Operational Areas


Soviet Union
China
Iran
India
Pakistan
Afghanistan
Fāryāb
Jowzjān
Samangān
Mazār-e Sharif
Baghlān
Takhār
Badakhshān
Bādghisāt
Herāt
Ghowr
Bāmyān
Vardak
Kābul
Konarha
Nangarhār
Paktia
Paktika
Ghazni
Orūzgān
Farāh
Zābol
Helmand
Nimrūz
Qandahār
ISLAMABAD
Area of concentrated chemical attacks
Parvan Province where chemical attacks have occurred
Soviet chemical defense battalion
Airfield
0
300
Kilometers

as well as supplies of lethal and incapacitating agents.

For the period from the summer of 1979 to the summer of 1981, the U.S. Government received reports of 47 separate chemical attacks with a claimed death toll of more than 3,000 (see Table 3). Of the 47 reports, 36 came from Afghan Army deserters, *mujahidin* resistance fighters, journalists, U.S. physicians, and others. For 24 of the reported attacks, there is additional independent evidence supporting allegations of chemical attacks. In seven instances, further individual reporting exists. Evidence for 20 of the reported incidents comes from information on Soviet or Afghan Army combat operations in progress in areas and at times approximating those of a reported chemical attack (see map).

The reports indicated that fixed-wing aircraft and helicopters usually were employed to disseminate chemical warfare agents by rockets, bombs, and sprays. Chemical-filled landmines were also reportedly used by the Soviets. The chemical clouds were usually gray or blue-black, yellow, or a combination of the colors.

Symptoms reported by victims and witnesses of attacks indicate that nonlethal incapacitating chemicals and lethal chemicals—including nerve agents, phosgene or phosgene oxime, possibly trichothecene toxins, and mustard—were used. Medical examinations of some of the victims include reports of paralysis, other neurological effects, blisters, bleeding, and sometimes death. While none of the agents being used in Afghanistan has been positively identified through sample analysis, there is no doubt that the agents being used are far more toxic than riot-control agents such as CN and CS or even adamsite.

Several descriptions of the physiological action of a chemical agent or of the condition of the corpses of victims were particularly unusual. In one, victims were rapidly rendered unconscious for 2-6 hours and had few aftereffects. In another, the bodies were characterized by abnormal bloating and blackened skin with a dark-reddish tinge, and the flesh appeared decayed very soon after death. In a third incident, three dead *mujahidin* guerrillas were found with hands on rifles and lying in a firing position, indicating that the attacker had used an extremely rapid-acting lethal chemical that is not detectable by normal senses and that causes no outward physiological responses before death.

Shortly after the Soviet invasion, many reports were received that both Soviet and Afghan forces were using various types of chemical agents. Ten separate chemical attacks, resulting in many deaths, were reported in the first 3 months of 1980. These reports came from northeastern Afghanistan and provide the highest percentage of reported deaths. During the mid-January to February 1980 period, helicopter attacks were reported in northeastern Afghanistan in which a grayish-blue smoke resulted in symptoms similar to those described by the H'Mong refugees from Laos (e.g., heavy tearing or watering of eyes; extensive blistering and discoloration of the skin, later resulting in large sheetlike peeling; swelling in the areas affected by the blister; and finally numbness, paralysis, and death). Medical reports from examinations in Pakistan of refugees from a large attack in the upper Konar Valley in February 1980 described red skin and blisters containing fluid described as "dirty water." Refugees estimated that about 2,000 people were affected after contact with a dirty yellow cloud.

By spring and summer of 1980, chemical attacks were reported in all areas of concentrated resistance activity. Many reports from different sources strongly support the case that irritants were used to drive the insurgents into the open to expose them to attack with conventional weapons and incapacitants to render them tractable for disarming and capture. On several occasions in April 1980, for example, Soviet helicopter pilots dropped "gas bombs" on insurgents, evidently to drive them from caves.

A Dutch journalist, Bernd de Bruin, published an eyewitness account of two chemical attacks occurring in the Jalalabad area on June 15 and June 21, 1980 (*Niewsnet*, August 2, 1980). He filmed an MI-24 helicopter dropping canisters that produced a dirty yellow cloud. A victim with blackened skin, discolored by extensive subcutaneous hemorrhaging, was photographed in the village 5 hours after the attack. The journalist evidently was exposed because he developed blisters on his hands and a swollen and itchy face. He also was exposed in the second attack, and it took about 10 days for him to recover from skin lesions, nausea, diarrhea, and stomach cramps.

An Afghan insurgent provided an eyewitness account of a July 6, 1980 attack on a village 10 kilometers east of Darae Jelga in Vardak Province. He reported that a Soviet MI-24 helicopter gunship dropped a bomb that, upon explosion, released a lethal chemical. A separate report confirmed that Soviet bombing attacks on villages in Vardak as well as Lowgar and Parvan Provinces were taking place during this period. In August 1980, information surfaced on a Soviet attack with chemical bombs on the village of Sya Wusan, 30 kilometers southeast of Herat, leaving 300 dead. It was during this time that the Soviet chemical battalion at Shindand set up an operational decontamination station.

Reports of chemical weapons use in 1981 essentially parallel 1980 reporting with respect to frequency and location of attack. Soviet helicopter units participated in chemical attacks from April 20 to April 29, 1981, in areas east and west of Kabul and in the Konar Valley, according to eyewitness accounts. These attacks were intended to drive personnel from sanctuaries, such as caves, in order to engage them with conventional fire. The munitions were described as Soviet 250-kilogram RBK cluster bombs. The Soviets have such a munition, which can be filled with chemical agents. Other reports described similar operations by helicopters north of Qandahar on April 24 and April 26, 1981.

A former Afghan MI-8 helicopter pilot said Soviet forces had used chemical weapons in Badakhshan, Qonduz, and Konarha. Chemicals in canisters that contained toxic gas, tear gas, and antirespiratory gas, which has an incapacitating effect by causing choking and difficulty in breathing, were manually pushed from the cargo compartment of helicopters. The pilot said that there also was a specific gas that is absorbed by the body and leaves the skin so soft that a finger can be punched through it. In one case, there was a wind shift, and Soviet and Afghan forces were seriously affected. Other sources also have described an incident where Soviet and Afghan forces were victims of their own gas attack.

The following sequence occurred in a small valley in Qandahar Province in early June 1981. According to an Afghan exile, Soviet combat groups engaged rebel forces in that valley during a 2-week period. The situation worsened for the Soviets, and an airstrike was conducted. The exile stated that a Soviet helicopter delivered a single rocket, releasing a chemical that killed 16 insurgents. Nearly all reports state that chemicals were delivered by aircraft or helicopters; a few reports describe chemical artillery rounds.

Before a sweep operation in the Konar Valley in September 1981, resistance leaders were told by an Afghan officer that the Soviets had four agents available but would use only the incapacitant which they could defend against with wet rags over the face. During the operation, Soviet helicopters conducted gas attacks in 25 different areas, using cylinders about 1.5 meters long and 60 centimeters in diameter that exploded 4-5 meters above the ground, releasing the incapacitating gas. Some victims lost consciousness, were paralyzed, and recovered, but others died, and unprotected areas of their skin turned dark green to blue-green.

An Afghan tribal leader recently described a Soviet chemical attack against a large resistance force in October 1981 near Maruf, about 100 kilometers east of Qandahar. Soviet helicopters dropped green cylindrical canisters (18 inches long, 3-4 inches in diameter) which, upon hitting the ground, emitted a greenish-yellow gas. According to the report, victims felt faint and dizzy; later their skin began to itch, and many lost consciousness. About 300 persons were affected by the gas and many died. Soviet ground forces captured many of the survivors. Other information on Soviet and *mujahidin* activities in the Qandahar area during this period confirms that this incident did in fact take place.

In February 1982, a member of the resistance, with considerable knowledge of Soviet weapons, told a U.S. official that the Soviets were using irritants, a hallucinogenic gas, and what he said was an apparent nerve gas. He described the "nerve agent" as an off-white powdery substance dispersed from helicopters generally during artillery or bombing attacks. Victims realize they have been exposed to chemical attack only when they become faint and dizzy. Subsequently, they begin to vomit and bleed from the eyes, nose, and mouth. Death occurs within a short time. The corpses are extremely relaxed, with no evidence of rigor mortis. Flesh and skin frequently peel off if an effort is made to move the bodies.

According to this account, survivors suffer aftereffects for about 6 months, including chest congestion and pain, dizziness, and mental agitation. The powder-like substance is more effective at lower altitudes where there is less wind to dilute the poison, and *mujahidin* groups have experienced fatality rates as high as 70%. Many survivors of chemical attacks in Laos and Afghanistan have exhibited the same long-term health problems described in this account.

Chemical defense battalions—standard in all Soviet divisions—are deployed with the three Soviet motorized rifle divisions operating in Afghanistan at Qonduz, Shindand, and Kabul. Soviet operational personnel decontamination stations were observed at several locations, and chemical decontamination field units were deployed during a sweep operation of the Konar Valley in eastern Afghanistan and near Shindand in the west in 1980. The operational deployment of decontamination units for personnel and equipment suggests that chemical battalions have supported offensive chemical use. In addition, Soviet personnel have been observed wearing chemical protective equipment. The Soviets have specifically tailored their forces in Afghanistan, in part because of logistical constraints; 5,000 troops and "nonessential" combat equipment were withdrawn, but the chemical battalions remain.

A Soviet military chemical specialist, captured by the *mujahidin*, gave his name as Yuriy Povarnitsyn from Sverdlovsk. During an interview, he said that his mission was to examine villages after a chemical attack to determine whether they were safe to enter or required decontamination. An Afghan pathologist who later defected described accompanying Soviet chemical warfare personnel into contaminated areas to collect soil, vegetation, and water samples after Soviet chemical attacks. According to firsthand experience of former Soviet chemical personnel, the Soviets do not require decontamination equipment in an area where chemical bombs are stored or loaded onto aircraft. Thus, deployment of this equipment in Afghanistan must be assumed to be associated with the active employment of casualty-producing chemical agents.

Afghan military defectors have provided information on ammunition and grenades containing phosgene, diphosgene, sarin, and soman and have described where and when some of them have been used. They also have revealed locations where these agents were stockpiled. The agents used, plus the time and location of the attacks, correspond with the refugee reports and recorded military operations.

The Soviet Union has stocked a variety of toxic chemical agents and munitions to meet wartime contingencies. Weapons systems capable of delivering chemical munitions available to Soviet forces in Afghanistan include artillery, multiple rocket launchers, and tactical aircraft.

Motivation for Using Chemical Weapons

In the course of this analysis, the question has been posed: Is there a military-strategic or tactical rationale for the systematic use of chemical weapons by conventional forces in Laos, Kampuchea, and Afghanistan? The military problems faced in these countries—viewed from the perspective of the Soviets and their allies—make the use of chemical weapons a militarily effective way of breaking the will and resistance of stubborn anti-government forces operating from relatively inaccessible, protected sanctuaries.

The Soviets have made a large investment in insuring that Vietnam and its clients succeed in extending their control over Indochina. For Vietnam, the H'Mong resistance in Laos is a major irritant to be removed as quickly and cheaply as possible. The use of chemical agents has played a major role in driving the H'Mong from their mountain strongholds, relieving Vietnamese and Lao ground forces of the need for costly combat in difficult terrain. Much of the H'Mong population that lived in the Phou Bia mountain region has been driven into Thailand, killed, or resettled.

In the mountainous areas of Afghanistan, where rebels are holed up in caves or other inaccessible areas, conventional artillery, high-explosive bombs, and napalm are not particularly effective. Many reports indicate that unidentified chemical agents have been used on such targets. Caves and rugged terrain in Laos and thick jungles in Kampuchea also have frustrated attempts to locate and destroy the resistance forces. Chemical clouds can penetrate the heavy forests and jungle canopy and seep into the mountain caves. Persistent agents linger in the area and cause casualties days and sometimes weeks after the attack. Unprotected forces and civilians have little or no defense against lethal agents like toxins, nerve gas, or blister agents.

Trichothecene toxins, which are known to have been used in Southeast Asia, have the added advantage of being an effective terror weapon that causes bizarre and horrifying symptoms. Severe bleeding, in addition to blisters and vomiting, has instilled fear in the resistance villages. Not only have the villagers and their animals been killed in a gruesome manner, but the vegetation and water also have been contaminated. Survivors are reluctant to return to their inhospitable homes and instead make the long and dangerous trek to camps in Thailand.

There is no clearcut explanation of why trichothecene toxins have been used in addition to irritants, incapacitants, and other traditional chemical warfare agents. Speculation suggests that they are probably cheaper to make and are readily available from Soviet stocks; they are probably safer and more stable to store, transport, and handle in a Southeast Asian environment, and they may require less protective equipment when being prepared for munitions. They are difficult to trace as the causative agent after an attack—as demonstrated by the length of time it took for the United States to detect them. Few laboratories in the world have the analytical capability to identify precisely the type and amount of trichothecene toxin in a sample of vegetation, soil, or water.

The Soviets may well have calculated that they and their allies could successfully deny or counter charges that chemical weapons had been used, recognizing that it would be especially difficult to compile incontrovertible evidence from inaccessible areas of Southeast Asia and Afghanistan. With respect to Kampuchea, they may also have calculated that, in view of the lack of international support for Pol Pot's resistance, chemical weapons could be used on his troops without significant international outcry.

In addition, the Soviet military very likely considers these remote areas as providing unique opportunities for the operational testing and evaluation of chemical weapons under various tactical conditions. Years of aerial and artillery chemical dispersion have undoubtedly provided the Soviets with valuable testing data. Southeast Asia has offered the Soviets an opportunity to test old agents that had been stockpiled for many years as well as more recently developed agents or combinations of agents. This conclusion is supported by information from foreign military officers who have attended the Soviet Military Academy of Chemical Defense in Moscow. According to their Soviet instructor, three types of chemical agents may be used during the "initial stages" of local wars: "harassing agents (CS, CN, DM), incapacitants such as psychochemicals (BZ) or intertoxins [sic—possibly enterotoxins], and herbicides." During the "decisive phase, lethal agents can be employed under certain circumstances." In a local war, "chemical weapons can be used to spoil enemy efforts to initiate operations, even if the enemy has not used them first." The foreign officers' accounts, including detailed descriptions of the Soviet chemical warfare program, support the conclusion that the Soviets consider chemical weapons an effective and acceptable means of warfare in local conflicts.

Insight into the Soviet bloc military perspective on the use of toxins is provided in the following passage from a 1977 East German military manual entitled *Textbook of Military Chemistry*.

> Toxins are designated as toxic agents which are produced by biological organisms such as micro-organisms, plants, and animals, and cannot themselves reproduce.
>
> By the middle of 1960 the toxins selected for military purposes were included among the biologic warfare agents. In principle, this was understood to mean only the bacterial toxins. Today it is possible to produce various toxins synthetically. Toxins with 10-12 amino acids can currently be synthesized in the laboratory. Toxins are not living substances and in this sense are chemicals. They thus differ fundamentally from the biological organisms so that they can be included among chemical warfare agents. As a result

of their peculiarities they are designated simply as "toxin warfare agents." They would be used in combat according to the same principles and with the same methods used for chemical warfare agents. When they are used in combat the atmosphere can be contaminated over relatively large areas—we can expect expansion depths of up to 6 kilometers before the toxin concentration drops below lethal concentration 50 . . . the toxin warfare agents can be aerosolized. They can be used primarily in micro-bombs which are launched from the air or in warheads of tactical rockets. Toxin warfare agents concentrates can be applied with aircraft spray equipment and similar dispersion systems.

The Soviet designation for several pathogenic *Fusarium* products is "IIF (*iskusstvennyy infektsionny fon*), which stands for "artificial infection background." IIF devices are used in the Soviet Union deliberately to contaminate soil in experimental agricultural test areas with spores of disease-producing fungi. We are not certain if the IIF compounds include trichothecenes. Nor are we certain as to the intent of this agricultural research program. It is possible that these programs are designed to colonize soil with pathogenic organisms either to determine which crop varieties are most resistant to disease or, alternatively, to test eradication and control methods in infected soils. Elsewhere in the Soviet agricultural research program, however, it is known that there is widespread use of certain trichothecenes, including sprays from light aircraft. A capability exists within the Soviet Union for multi-ton production of light aircraft spray-delivered microbial products such as those described above.

Evidence accumulated since World War II clearly shows that the Soviets have been extensively involved in preparations for large-scale offensive and defensive chemical warfare. Chemical warfare agents and delivery systems developed by the Soviets have been identified, along with production and storage areas within the U.S.S.R. and continuing research, development, and testing activities at the major Soviet chemical proving grounds. Soviet military forces are extensively equipped and trained for operations in a chemically contaminated environment. None of the evidence indicates any abatement in this program. The Soviets have shown a strong interest in improving or enhancing their standard agents for greater reliability and effect. Their large chemical and biological research and development effort has led them to investigate other kinds of chemical warfare agents, particularly the toxins.

None of the four countries considered in this report—Vietnam, Laos, Kampuchea, and Afghanistan—has any known large-scale facility or organization for the manufacture of chemical and biological materials. Nor are they known to have produced even small quantities of chemical warfare agents or munitions. The technical problems of producing large quantities of weapons-grade toxins, however, are not so great as to preclude any of the four countries from learning to manufacture, purify, and weaponize these materials. It is highly unlikely, however, that they could master these functions without acquiring outside technical know-how.

ANNEX A

A LAO PILOT'S ACCOUNT

One of the most complete descriptions of chemical warfare activities in the 1976–78 period came from a Lao pilot who was directly involved in chemical warfare. The pilot, a former Lao People's Liberation Army (LPLA) officer who defected in 1979, reported that he flew captured L–19 and T–41 aircraft equipped to dispense toxic chemical agents on H'Mong villagers in the Phou Bia area of northern Laos. He said that the LPLA, in cooperation with the Vietnamese Army, had conducted chemical warfare operations in Laos since April or early May 1976. At that time, two Lao H-34 helicopters were flown between Long Tieng and the Phonsavan airfield, both in Xiangkhoang Province, on a series of flights to transport rockets to Phonsavan for storage.

Between June and August 1976, the LPLA launched attacks in the area of Bouamlong—in Xiangkhoang Province—a stronghold for remnants of the forces of former H'Mong Gen. Vang Pao. The LPLA used L–19 aircraft for rocket attacks in that area aimed at eliminating the H'Mong resisting government control. Lao crews responsible for loading rockets on the attack aircraft noted that they were not allowed to use the rockets that had been moved from Long Tieng to Phonsavan, even though Phonsavan was much closer to the Bouamlong target area than Long Tieng, where Lao aircraft had to rearm. The pilot said that, during nearly 3 months of flying missions against the Bouamlong area, he flew his L–19 aircraft to Long Tieng to be armed with rockets.

In late 1976, the pilot's L–19 aircraft was rearmed with rockets stored at Phonsavan. Initially, H-34 helicopters were used to transport the rockets from Phonsavan to a depot near the Ban Xon airfield (Vientiane Province), where the rockets were fitted onto racks of the L–19 aircraft for missions in the Phou Bia area; later, the rockets from Phonsavan were transported to Ban Xon by trucks. All U.S.-manufactured rockets were stored with the tip and canister kept apart; the two parts had to be joined before being fitted to the racks on the aircraft. The pilot observed, however, that all the rockets transported from Phonsavan to Ban Xon were already assembled.

As part of his routine flight activities, the pilot would check his aircraft and, in doing so, examine the tip portion of new smoke rockets that had been transported from Phonsavan. He said that most appeared "loose" in the portion where the tip and canister joined, whereas the tip and canister of the ordinary explosive-type rockets at Long Tieng were noticeably more tightly connected.

In late 1976, during preparation for airstrikes on Kasy (Louangphrabang Province) and in new areas of Phou Bia, the pilot said he began carrying two or three Vietnamese Army staff officers, sometimes accompanied by a Lao staff officer, in T-41 aircraft for reconnaissance over the target areas. When these airstrikes were launched, the defector pilot initially flew his L–19 aircraft on missions with another pilot and a Lao staff officer. After 2 or 3 weeks, however, Vietnamese staff officers, who spoke excellent Lao, began alternating with the Lao officers. Before each mission, the Vietnamese or Lao staff officer would go over target areas outlined on situation maps—which then were taken along—and would point out the targets to be attacked. The defector pilot noted that at no time did the Vietnamese staff officer communicate with Lao officers on the ground, as did the Lao staff officers. A new Vietnamese officer was assigned for each airstrike mission in the H'Mong areas.

The pilot related that before flying L–19 airstrike missions with a full load of rockets he was often warned by a Lao commander to fly at above-normal altitudes when firing rockets—to preclude hazard to the occupants of the aircraft. For this reason the pilot surmised that the "smoke" rockets fired at the H'Mong were unusual. He was able to observe that the "smoke" rockets detonated in the air and that some produced white smoke, with a mixture of blue, while others produced red smoke, with a mixture of yellow. The ordinary explosive-type rockets detonated on impact. The commander or his designated representative told the pilot before every mission that the operations—called Extinct Destruction Operations—were intended to "wipe out the reactionary H'Mong people."

Before a mission involving "smoke rockets," the commander warned the pilots to keep the operation secret. The Lao defector said that, during the nearly 2 years in which he flew rocket missions, he learned from the Lao staff officers accompanying him that there were two types of rockets. The first, mostly "smoke" rockets, were to be fired at targets far away from Lao and Vietnamese troops to avoid exposing them to the poison smoke. The second was of the ordinary explosive type, considered a "close support" rocket that could be fired near Lao troop positions. Initially, the L-19 aircraft carried eight rockets—five "close support" and three "smoke" rockets. Later, only four rockets, mainly of the "smoke" type, were carried.

After each mission in which chemical warfare rockets were used, the pilot was returned to a "rest house" at Phonsavan, where a Lao Army doctor and nurse would examine him. He said that after his missions, especially in 1978, he was particularly well treated by the examining doctor and watched very closely by the nurse. Those L-19 aircraft pilots assigned to missions utilizing chemical warfare rockets had special privileges, including additional flight pay and free meals at the Phonsavan cafeteria. In October 1978, the Lao Army stopped using L-19 aircraft on combat missions and began using Soviet MiG-21s for chemical attacks on the Phou Bia areas.

Several H'Mong reports corroborate the testimony of the Lao pilot. A village chief, for example, described attacks covering all 7 days of the week of June 5, 1976 in the Bouamlong area. He described L-19 aircraft firing rockets that produced red and green smoke: Ten villagers were killed by gas and 30 by shrapnel. Most of the H'Mong reports documented by a U.S. Foreign Service officer in June 1979 and a Department of Defense medical team in October 1979 were consistent with the pilot's testimony. H'Mong observers familiar with military aircraft reported L-19s in use until late 1978. After that time, reports described jets or "MiGs" and some accurately described Soviet AN-2s.

A review of information back to 1975 shows L-19 and T-28 aircraft were operating from airfields in northern Laos—including the one at Phonsavan, where AN-2s were seen in 1978. Failure to observe chemical decontamination equipment at the airfields does not rule out the presence or handling of chemical munitions. The Soviets supervise the chemical warfare activities in Laos; it is assumed that chemical munitions are handled in about the same manner as in the U.S.S.R. According to former Soviet chemical warfare personnel, no protective clothing or special decontamination equipment is required for loading chemical bombs onto aircraft and helicopters at chemical munitions test ranges.

The Lao pilot's description of the rockets used on the L-19 was corroborated by other sources. A H'Mong refugee, a former commander of a 500-man resistance force, reported that in 1977 he found a rocket canister and a separated warhead that he believed were the kinds used by the Vietnamese and Lao. The canister had authentic U.S. markings identifying it as a U.S.-manufactured 2.75-inch rocket and, reportedly, three lines of Russian writing which he could not translate. Another H'Mong resistance force officer, reportedly trained as a liaison officer and ordnance expert before the Communist takeover of Laos, stated that he, too, believed that the rocket canister was of U.S. manufacture and that the Soviet technicians in Laos had modified the upper stage to contain a poisonous (i.e., lethal) chemical.

The diameter of the warhead was reported to be 12.5 centimeters (5 inches), probably a measurement taken on a modified warhead, because the United States does not have a 5-inch warhead for the 2.75-inch "rocket motor." During the Vietnam conflict, about 35 million U.S.-manufactured, conventional 2.75-inch rockets were sent to the war zone, and many tens of thousands of these fell into North Vietnamese hands when the South Vietnamese forces collapsed. The Vietnamese may be using some of these rockets with existing loads, but modified warheads for the 2.75-inch rocket motor could easily be fabricated in Vietnam and filled with a lethal or nonlethal agent in Laos, especially with Soviet assistance. According to U.S. experts, fabrication of a warhead 5 inches in diameter, necked down to fit the 2.75-inch rocket, could be accomplished by trained technicians in a small, well-equipped machine shop and laboratory.

ANNEX B

FINDINGS OF U.S. GOVERNMENT INVESTIGATIVE TEAMS: USE OF CHEMICAL AGENTS AGAINST THE H'MONG IN LAOS

State Department Team

In May 1979, State Department officials visited Thailand to interview H'Mong refugees and investigate allegations of the use of chemical agents against H'Mong tribesmen in Laos (see Table B-1). From the signs/symptoms described and observed, it is suggested that at least two and possibly three different chemical agents may have been used, such as:

- A nerve agent (five or six individuals reported symptoms that could be attributed to a nerve agent);
- An irritant or riot-control agent (one-third of the interviews); and
- More than half of the interviews indicated such a variety of signs and symptoms that it is difficult to attribute them to a single known agent.

It is possible that in some cases two or more agents were combined.

- Reported signs and symptoms suggesting a nerve agent include sweating, tearing, excessive salivation, difficulty in breathing, shortness of breath, nausea and vomiting, dizziness, weakness, convulsions, and death occurring shortly after exposure.
- Reported signs and symptoms suggesting a riot-control or irritant agent include marked irritation or burning of the eyes, with tearing and pain; irritation and burning of the nose and throat; coughing; burning and tightness in the chest; headache; and nausea and vomiting in a few cases.
- Reported signs and symptoms not related to any known single agent include a mixture of the above as well as profuse bleeding from mucous membranes of the nose, lungs, and gastrointestinal tract, with rapid death of the affected individuals in some instances.

Estimates from the H'Mong interviewed indicate that approximately 700-1,000 persons may have died as a result of the use of chemical agents and that many times this number became ill. It was reported that on many occasions entire villages were devastated by these agents, leaving no survivors.

In the episodes described, most of the animals exposed to the chemical agents were killed. Generally, all chickens, dogs, and pigs died and, to a lesser extent, the cattle and buffalo. On several occasions it was reported that where these agents settled on tree and plant leaves, many small holes appeared in the leaves within 2 or 3 days. Rarely did agent exposure result in the defoliation or death of the plants.

Department of Defense Team

From September 28 to October 12, 1979, a team from the U.S. Army Surgeon General's Office was in Thailand to conduct a similar series of interviews.* The team visited the following H'Mong refugee camps of northern Thailand: the detention center at Nong Kai, the large H'Mong camp at Ban Vinai, and two smaller camps at Nam Yao and Mae Charim. As the great majority of refugees as well as the H'Mong leadership are at Ban Vinai, most interviews were obtained there.

The team was prepared to obtain blood and skin samples (for cholinesterase activity and study of pathological changes, respectively) from those exposed to chemical agents. For such samples to yield meaningful results they must be taken within 6–8 weeks of exposure. Since the last reported exposure was in May 1979, no blood or skin samples were collected.

Interviews were conducted through interpreters; one was an employee of the U.S. Consulate at Udorn, and the remainder were hired from among the refugees. The interpreters screened those refugees who volunteered to talk to the team and selected only those who had been eyewitnesses to or had themselves been exposed to an agent attack. Team members interviewed 40 men, 2 women, and a 12-year-old girl. Each interview took 1–2 hours. To insure conformity, a prepared questionnaire was used as a guide.

The chemical attacks reportedly occurred between June 1976 and May 1979 (Table B–1). The absence of reports of attacks after May 1979 may be because

TABLE B–1

Reports of Probable Chemical Agent Attacks in Laos

Department of State Interviews Conducted in Summer 1979

Date	Location	Method of Attack by Plane	Material Used (Smoke/Gas)
Oct. 1977	Phu Hay, S. of Phou Bia	Rockets	Yellow-gray
1978	Pa Sieng, S. of Phou Bia	Bomb	Yellow
Feb. 1978	Ban Nam Luk, S. of Phou Bia	Spray (?)	Yellow/white
Feb. 1978	20 kms SE. of Phou Bia	Spray (?)	Yellow
Feb. 1978	Ban Ko Mai	Bomb	Yellow
Mar. 1978	Pha Houei	Sacks, burst in air	Brown
Mar. 1978	Ban Na Pong	(?)	Yellow
Apr. 1978	Ban Phamai	(?)	White, green, blood-colored
May-Apr. 1978	Ban Nong Po	Cloud	Yellow-brown like rain
June 1978	Ban Nam Teng	Rocket (?)	Yellow
June 1978–May 1979	Ban Don area	Spray	Yellow
Mid-1978	1–3 kms NE. of Phou Bia	Rocket, air burst	Red
Oct. 1978	Nam Kham	Rockets, air burst	Yellow
Oct. 1978	6 kms N. of Phou Khao	Rockets, air burst	Red
Oct. 1978	3–4 kms N. of Phou Bia	Rockets, air burst	Yellow-gray
Nov. 1978	Phou Xang Noi	Spray	Yellow, blue
Nov. 1978	near Phou Bia	Bomb, air burst	Yellow
Nov. 1978	NE. of Pha Khao	Rocket, air burst	Yellow
Apr. 1979	Ban Noula Pong	Spray	Yellow
May 1979	Nam Po	Spray	Yellow
May 1979	Pha Mai	Spray, air burst	Yellow

Department of Defense Interviews Conducted in Fall 1979

Date	Location	Method of Attack by Plane	Material Used (Smoke/Gas)
June 1976	Pou Mat Sao	Rockets	Red, green
Jan. 1977–Oct. 1978	Pha Khao	Rockets	Yellow, red, green
Mar. 1977	Nam Theuna	Rockets	Red, yellow
Apr. 1977	Houi Kam Lang	Rockets	Yellow
May 1977	Pha Khae	Rockets	Red
May 1977	Nam Moh	Rockets	Yellow
May 1977	Pha Ngune	Spray/rockets	Yellow
1977–1978 (3 attacks)	Phu Seu	Rockets	Red, green, yellow
Jan. 1978	Houi Xang	Rockets	Red, green
Feb. 1978	Sane Mak Ku	Rockets	Yellow
Feb. 1978	Tham Se Sam Leim	Rockets	Yellow, black
Feb. 1978	Kio Ma Nang	Rockets	Yellow
Mar. 1978	Mouong Ao	Rockets	White
Mar. 1978	Khieu Manang	Rockets	Green
Apr. 1978	Tha Se	Rockets	White
June 1978	Pha Phay	Rockets	Yellow
June 1978	Phou Seng	Rockets	Red, white, black
July 1978	Phou Bia	Rockets	Red
July 1978	Ban Nam Mo	Spray	Yellow
July 1978	Phou Lap	Rockets	Yellow
Aug. 1978	Pha Houai	Rockets	Red, green
Aug. 1978	Ban Thin On	Rockets	Green, red
Aug. 1978	Bouamlong	Rockets	Red, green, yellow
Sept. 1978	Pha Koug	Rockets	Yellow
Sept. 1978	Ban Nam Tia	Spray/rockets	Yellow, green, red
Sept. 1978	Pha Na Khum	Rockets	Red
Oct. 1978	Phou Bia	Rockets	
Oct. 1978	Ban Done	Spray	Yellow
Oct. 1978	Phou Bia	Rockets	White, green, red
Nov. 1978	Phou Bia	Rockets	White, red
Feb. 1979	Pha Mat	Spray	Yellow
Feb. 1979	Tong Moei	Rockets	Yellow, red
Mar. 1979	Pha Mai	Spray	Yellow
Mar.–May 1979 (6 attacks)	Pha Mai	Spray	Yellow
Apr.–May 1979 (4 attacks)	Pha Mai	Spray	Gray-white
May 1979	Phou Bia	Spray	Yellow
May 1979	Moung Phong	Rockets	Red

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* The authors of the U.S. Army Surgeon General's report are Charles W. Lewis, M.D., COL, MC, Chief, Dermatology Service, Brooke Army Medical Center, Fort Sam Houston, Texas; Frederick R. Sidell, M.D., Chief, Clinical Resources Group, U.S. Army Biomedical Laboratory, Aberdeen Proving Ground, Md.; William D. Tigertt, M.D. (Brigadier General, Ret., USA), Professor of Pathology, University of Maryland, Baltimore, Md.; Charles D. Lane, LTC, Southeast Asia Desk Officer, OACSI, Department of the Army, Washington, D.C.; and Burton L. Kelley, SP5, USA, Dermatology Technician, Brooke Army Medical Center, Fort Sam Houston, Texas.

few refugees crossed the Mekong River after that time—as a result of heavy rains and flooding from June to September 1979. Most of the early reports were of the use of rockets releasing the agent; beginning in the fall of 1978, the majority of the attacks were carried out by aircraft spraying a yellowish substance which "fell like rain." The attack sites, concentrated around the H'Mong stronghold in the mountainous Phou Bia area, also are listed in Table B-1.

The team was given a plastic vial containing pieces of bark, stained by a yellow substance, which several H'Mong refugees claimed was residue from an aircraft spray attack in April 1979. Preliminary chemical analysis of the sample indicates that no standard chemical agent (i.e., an agent listed in TH 8-285, U.S. Army, May 1974) was present.

Conclusions

The conclusions of these teams, based upon interviews obtained from H'Mong refugees, are as follows:

- Chemical agents have been used against the H'Mong.
- The reported effects of these agents suggest the use of a nerve agent, a riot control agent, and an unidentified combination or compound.

ANNEX C

MEDICAL EVIDENCE

Southeast Asia

Since 1975, many different sources—refugees, relief workers and medical personnel, including specially qualified physicians—consistently have detailed unusual signs and symptoms of victims of "yellow rain." Specifically, victims in Southeast Asia subjected to a direct attack of the yellow powder, mist, smoke, or dust would be seen to begin retching and vomiting within minutes. These effects and those described below were not pronounced in individuals even 100 meters from the attack zone, indicating a relatively dense chemical/carrier combination that was effective in low wind conditions.

Following the victim's exposure to yellow rain, the initial induced vomiting—unlike that caused by a traditional riot-control nausea agent—was protracted over hours to days. It was often accompanied by dizziness, rapid heartbeat and apparently low blood pressure, chest pain, loss of far-field vision, and a feeling of intense heat and burning on the skin, although not described as being most acute in the groin and axillae. Thus, the acute signs and symptoms match some effects of traditional vomiting and blister agents but clearly not all.

Within the first hours after the attack, many victims also reported intense red eyes, bleeding gums, convulsions or more often trembling, and vomiting of blood, with or without production of copious amounts of saliva—lasting many hours to days, apparently depending on the exposure level. Thick mucous, pinpoint pupils, respiratory collapse, prolonged spasticity, and involuntary urination or defecation were never reported after a yellow rain attack; the absence of these symptoms helped to rule out organophosphate nerve agents in the minds of chemical warfare experts. Many medical and environmental samples also ruled out these and other traditional agents such as DM, DS, and others.

Many observers of "yellow rain" effects reported formation within several hours of small (1 centimeter) homogeneous, hard, fluid-filled blisters over only exposed areas of skin, frequently including the victim's hands, arms, entire throat, and face—wherever skin was uncovered. In most cases the vomit, after 2-8 hours, contained blood and, in many cases, large amounts of it. About half of those receiving the most concentrated doses of yellow material—those who had been directly under the spray—were observed within several hours to cease vomiting temporarily. This interval was often followed in 5-15 minutes by a period of great pain when the victim would hold his abdomen and emit a gush of blood from mouth and nose. These individuals usually died within minutes afterward.

Close questioning by physicians of witnesses to these final moments leaves no doubt that the effects resulted from severe gastrointestinal bleeding, significant pulmonary bleeding, temporary compression of accumulated blood in the stomach, and, finally, projectile vomiting of as many as several hundred milliliters of blood. These findings were consistent with animal and human autopsies.

Many victims of the yellow material received less than the full brunt of a spray, entered the attack zone several hours to 2 days later, or consumed food or water contaminated by the material. These individuals—often within the next 24 hours—developed signs and symptoms similar to those more directly affected but often without pronounced skin effects if they had not contacted the powder residue directly. In addition to attacks of intense vomiting five or six times a day, they also had diarrhea, with bloody stools passed up to eight times a day. Bleeding under the fingernails and around the skin of the eyes and severe bruising of the skin also were commonly reported. Opiates helped the fluid loss in adults, but in children or young persons unable to tolerate the treatments of raw opium and water, death occurred after 10 days to 2 weeks in about half the cases. On the basis of reported signs and symptoms, the cause of delayed death almost certainly was dehydration.

In many cases, chemical attacks are reported to produce symptoms other than those described here. However, there has always been a direct association of the above symptoms with reports of yellow rain attacks—that is, when yellow material is used these symptoms appear; other agents may give rise to other symptoms. Although it is possible to exhibit one or even several of these symptoms associated with traditional chemical warfare agents, no expert has been able to fit the sequence, severity, and consistency with any of them. In many cases, victims and observers were examined, histories taken, and interviews conducted by several health professionals weeks apart. Remarkable consistency has been observed.

From the beginning of the yellow rain episodes in 1975, autopsies occasionally have been reported anecdotally. Some have been done inexpertly, some by nonphysicians, and some were performed on animals rather than on human victims. However, the consistency of the early reported "putrefaction" or "rottenness" of the digestive tract within 12-48 hours after death led many forensic medical experts to suspect that one effect of the poison—whatever it was—was to cause necrosis (cell death) of rapidly dividing mucosa (mucous membranes), especially in the stomach and upper small intestine. Other autopsy findings included hyperemia (engorgement with blood) of digestive mucosal linings and remarkably intense congestion and swelling in the lungs, liver, spleen, and sometimes the kidneys. These and other findings often led experts in toxicology and pathology, on the basis of clinical and pathological data alone, to suggest mycotoxin or even trichothecene intoxication.

Trichothecene effects have been reported in the forensic, oncological, and toxicological literature for several years. Unpublished findings often have been discussed in symposiums. in several dozen cases, toxic effects in humans and animals have been carefully recorded, and they match those of yellow rain with good precision (see Table C-1). *There are no additional signs or effects of known trichothecene intoxication not frequently reported by victims, nor are there any reported yellow rain symptoms that cannot be explained by the effects of the four specific trichothecene toxins found in the samples.*

There are no significant medical differences in the reporting from Laos and Kampuchea. Although the timing and delivery systems have sometimes varied, the effects of the chemical agent, clinically and pathologically, are identical. In some cases, a series of blood samples from Kampuchean victims also showed a trend toward leukopenia (reduction in the number of white blood cells) and the presence of a trichothecene metabolite (HT-2) consistent with trichothecene intoxication (see Annex D). Dose-response effects that were observed and routes of administration were both consistent with effects of trichothecenes.

An early hypothesis (1978-79) was that a significant number of deaths, especially in Laos, could be explained by the heavy use of riot-control agents such as CS, CN, DM, and agents which cause itching and/or blistering. This hypothesis was rejected quickly on two grounds. First, trace contaminant analysis failed to show the presence of any of these compounds in samples; several samples did, however, contain a trichothecene precursor. Second, contrary to commonly held views, the epidemiology of diseases endemic to the central highlands of Laos and the public health situation of the H'Mong do not support the view of malnourished, disease-ridden, and weak persons who would succumb easily to riot-control agents. Also, many studies have shown the opposite: a relatively low incidence of pulmonary disease, lower than what could otherwise account for certain effects; better nutritional states than could otherwise account for death in 10 days to 2 weeks from water loss (dehydration) and calorie depletion; and a death rate of nearly zero from causes other than infection, old age, and trauma.

TABLE C-1

Comparison of Reported "Yellow Rain" Effects With Known Trichothecene Effects

Yellow Rain Reports*	Effects of Trichothecenes
1. Nausea, vomiting—severe, immediate	1. Nausea, vomiting—severe, immediate
2. "Falling down, world turning"	2. Dizziness
3. "Burning of skin"—small blisters	3. Generalized erythema with a burning sensation of skin
4. "Shaking all over, flopping like fish out of water"	4. Ataxia (failure of muscular coordination), occasional tremors and convulsions
5. "Bleeding eyes"	5. Congestion of the sclera (white outer coat of eyeball) and blood in tears
6. "Pounding" chest, rapid heartbeat, weakness	6. Hypotension (abnormally low blood pressure) with secondary rise in heart rate
7. Severe pain in center of chest	7. Angina (substernal chest pain)
8. Sleepiness, "not able to talk"	8. Somnolence, central nervous system symptoms
9. Bleeding gums and profuse salivation	9. Stomatitis (inflammation of oral mucous membranes) and ptyalism (excessive salivation)
10. "Can't breathe"	10. Shortness of breath
11. "Skin and body hot with cold"	11. Fever and chills
12. Diarrhea with blood	12. Diarrhea with blood
13. Loss of appetite, inability to eat	13. Anorexia
14. Bleeding into skin and fingernails	14. Thrombocytopenia (decrease in number of platelets, white blood cells involved in clotting of blood) and purpura (skin discoloration caused by hemorrhage into tissues)
15. Drop in white blood cell count	15. Leukopenia and anemia
16. "Rotten esophagus, stomach, intestines, soft spleen and liver"	16. Rapid necrosis of linings of gastrointestinal tract, lymphoid necrosis in spleen and liver
17. Swelling of all organs	17. Congestion of all organs

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* Effects are immediate at levels near to or above a rough estimate of 500-1,000 mg total body burden for an adult. Although inhalation data are pending, the levels are consistent with reported lethal and sublethal doses. Trichothecenes in combination, when directly ingested or inhaled, or in purified form, are more toxic in lower concentrations, and the order of signs and symptoms and timing varies.

Afghanistan

Some deaths associated with bleeding have been described in the accounts from Afghanistan. In one set of cases, a physician examined persons who had been exposed to sublethal doses of a yellow smoke/black smoke combination attack and one man near death after a series of attacks. Hemoptysis (nasal bleeding)—but not hematemesis (bleeding from the gastrointestinal tract)—was reported in about half of these cases.

Several features of at least one of the chemical agents—an incapacitant—used in Afghanistan defy explanation at this time. One possibility is that the agent(s) are highly selective for the central nervous system rather than the autonomic nervous system. As yet, no good candidate agent has been identified which will selectively inhibit the central nervous system so as to cause unconciousness for several hours. Another finding has been the presence of a dermal anaesthesia, affecting only exposed areas of skin.

Postattack Medical Survey

There is evidence that after some attacks in Laos and Afghanistan, Lao Communist or Soviet forces entered the attack zones to conduct surveys. Several reports indicate that survivors from a toxin attack on a Lao village were taken several kilometers from the village and injected with a small volume of a clear solution said by their captors to be a "new" medicine to assess the gas. The injections, given intramuscularly in the upper arm, reportedly did nothing to alleviate the weakness, nausea, vomiting, or diarrhea suffered by the survivors. One victim reported the drug caused an immediate sensation of warmth throughout his body. Only the use of opium later eased the discomfort. It is probable that this procedure was a test either of a new antidote or of a drug developed to reduce incapacitation from the nausea and vomiting.

Similarly, in a few cases in Afghanistan, Soviet troops reportedly disembarked from helicopters or armored personnel carriers at the edge of an attack site. Three or four, dressed in full anticontamination gear, walked among the dead, examined the corpses and, opening them with a crude incision, examined the organs in the abdominal and thoracic cavities. In one case, a solution was poured into the incision. When the corpses were later recovered by the *mujahidin*, the body cavity contents had been destroyed beyond recognition. These and a few additional reports support the hypothesis that the perpetrators of some of the attacks were interested in studying aftereffects, lethality, or some other quasi-experimental aspect of the use of a new chemical weapon. Recent indications from Afghanistan indicate that one purpose of the field surveys and body examinations is to determine levels of toxic materials still present in the attack zone before Soviet troops occupy it.

ANNEX D

ANALYSIS AND REVIEW OF TRICHOTHECENE TOXINS

Sample Analyses for Trichothecenes

The Trichothecene Hypothesis. Since 1975, the U.S. Government has received remarkably consistent reports detailing chemical attacks in Southeast Asia. Some of these reports described the use of lethal agents which produced symptoms that could not be correlated with those produced by known or traditionally recognized chemical warfare agents or combinations of them (see Table D-1). It is readily apparent that the symptoms most frequently described in Laos and Kampuchea correspond most closely with those produced by a group of mycotoxins—the trichothecenes. A review of the scientific literature revealed not only that these compounds had physical and chemical properties indicating potential as chemical agents but also that they were the subject of intensive investigation by Soviet scientists at institutes previously linked with chemical and biological warfare research. In the fall of 1980, the trichothecenes were added to the list of agents suspected to have been used in Southeast Asia and Afghanistan. Other candidates under consideration included phosgene oxime, arsines, cyanogen chloride, nerve agents, riot-control agents, and combinations of these agents.

Many samples from chemical attacks in Laos and Kampuchea were examined at the U.S. Army's Chemical Systems Laboratory (CSL) for the presence of traditional chemical warfare agents and were reported to be negative. In March 1981, CSL reported the presence of an unusual compound ($C_{15}H_{24}$) in the vapor analyses from several clothing and tissue samples taken from the victim of a chemical attack. The compound was closely related in structure to the simple trichothecenes. This finding sparked the request for analysis of all future samples for the presence of trichothecene mycotoxins.

The Kampuchean Leaf and Stem Sample: The First Analysis for Trichothecenes. On March 24, 1981, a number of samples were received from the U.S. Embassy in Bangkok. Two were reported to have been collected from the site of a chemical attack that occurred in the vicinity of TV 3391, an area just south of Phnom Mak Hoeun. A vegetation sample and a water sample were collected within 24 hours of the attack. Examination of bodies of victims of this attack by medical personnel revealed highly unusual degeneration of the mucosal lining of the gastrointestinal tract. The effects described paralleled those known to be produced by the trichothecenes. The samples were submitted to the Chemical Systems Laboratory for analysis for the presence of chemical warfare agents. With the exception of the unusual presence of high levels of CN-, Cl-, and F-ions, no evidence of known chemical warfare agents was found. An initial test for the trichothecenes by thin layer chromatography was inconclusive because of severe problems with interfering substances and the lack of appropriate standards.

The trichothecenes are difficult to detect even under ideal circumstances, and the presence of interfering substances in the sample may make identification and quantification by thin layer chromatography inconclusive. A review of the limitations and potentials of the analytical methods for trichothecenes led to the conclusion that the computerized gas chromatography/mass spectroscopy method in the selected ion-monitoring mode enabled precise identification and quantification of these compounds in complex mixtures. A comparison of the currently available methods suitable for trichothecene analysis and an assessment of their utility and limitations is presented in Table E-3.

A portion of the leaf and stem sample was furnished to the U.S. Army Medical Intelligence and Information Agency for further analysis. This sample, a positive control sample to which T-2 toxin was added, and a negative control sample of similar vegetation were forwarded to Dr. Chester J. Mirocha of the Department of Plant Pathology, University of Minnesota. Dr. Mirocha was given no information concerning the history or content of the samples and was requested to analyze the three unknowns for the presence of trichothecene toxins using the best methods at his disposal.

The analysis involves a series of extractions followed by ferric gel separation, selected ion monitoring on a computerized gas chromatograph/mass spectrometer, and a full mass spectral scan for comparison with known standards. The methods used are among the most sensitive and specific for detection of these compounds; also, false positives are rare. Toxins can be identified by their mass spectra and quantified with a high degree of accuracy. The vegetation sample allegedly exposed to a chemical warfare agent was found to contain 109 parts per million (ppm) of nivalenol, 59.1 ppm of deoxynivalenol, and 3.15 ppm of T-2 toxin; each is a potent toxin of the trichothecene group. No trichothecenes were detected in the negative control sample, and 35 ppm of T-2 toxin were detected in the sample to which T-2 toxin had been added. It was Dr. Mirocha's assessment that a mixture of these particular toxins in the high levels detected could not have occurred as a result of natural contamination.

The possibility that the identified toxins were produced by natural fungal contamination was discounted on the basis of the climatic conditions required for production of T-2 toxin, the high levels of toxins detected, the unusual mixture of toxins found, and the results of surveys of Southeast Asia for the presence of these toxins. This conclusion was supported by the analysis of normal flora samples from Kampuchea described below.

Analyses of Control Samples From Kampuchea for the Presence of Trichothecenes. On September 20, 1981, the U.S. Army Medical Intelligence and Information Agency received nine control samples from U.S. Army personnel in Bangkok for the purpose of conducting laboratory analyses for background

TABLE D-1

Symptoms of Chemical Attacks Reported in Laos, Kumpuchea, and Afghanistan

Symptom	% of Reports Mentioning Symptom	Tricho-thecenes	Nerve Agents	Arsines	Phosgene Oxime	Cyanogens	Incapacitant (BZ)	Riot Control Agents
Laos								
Multiple deaths	84.6	X	X	X	—	X	—	—
Vomiting	71.4	X	X	X	—	—	—	X
Diarrhea	53.1	X	X	X	—	—	—	—
Hemorrhage	52.0	X	—	—	X[a]	—	—	—
Breathing difficulty	47.95	X	X	X	X	X	X	X
Itching and skin irritation	43.9	X	—	X	X	—	—	X
Nausea	42.8	X	X	X	—	—	X	X
Animal death	41.8	X	X	X	—	X	—	—
Blurred vision	39.7	X	X	X	X	X	X	X
Headache	38.7	X	X	—	X	—	X	X
Fatigue	35.7	X	X	—	—	—	X	—
Nasal excretion	34.7	X	X	X	X	—	—	X
Rash or blisters	32.6	X	—	X	X	—	—	X
Tearing	30.6	X	X	X	X	X	—	X
Coughing	28.6	X	X	X	X	X	—	X
Effect on vegetation	26.5	X	—	X	X	—	—	—
Dizziness and vertigo	25.5	X	X	—	—	X	X	X
Facial edema	20.4	X	—	X	X	—	—	X
Thirst and dry mouth	20.4	X	—	—	—	—	X	—
Skin color change	16.3	X	—	—	X	—	—	—
Tachycardia	12.3	X	X	—	X	X	X	X
Temporary blindness	9.18	X	—	X	X	—	X	X
Rapid loss of consciousness	9.18	X[b]	X	—	—	X	X	—
Salivation	6.12	X[c]	X	—	—	—	—	—
Hearing loss	5.1	X	—	—	—	—	—	—
Tremors or convulsions	4	X	X	—	X	X	—	—
Sweating	3	—	X	—	—	—	—	—
Paralysis	3	X	X	—	—	X	—	—
Loss of appetite	3	X	X	X	—	—	—	—
Frequent urination	2	X	X	—	—	—	—	—

Continued on p. 25

Note: The table is a compilation relating the signs and symptoms reported in the three countries to symptoms associated with certain chemical agents. The frequency with which a particular symptom was reported is expressed as a percentage of the total number of attacks.

levels of trichothecene toxins. The samples were collected from an area near TV 3391 that had not been subjected to any reported chemical attacks. The samples were collected by U.S. personnel under instructions to reproduce the sampling conditions, handling, packaging, and transfer conditions of the original sample as closely as possible. The same species of plant was sampled, and four other vegetation samples also were collected. A water sample and two soil samples were recovered. Corn and rice samples from the area also were taken. These grains provided an ideal substrate for growth of toxin-producing fungi and would, therefore, be a sensitive indicator of any natural occurrence. The nine samples were forwarded under code to Dr. Mirocha for trichothecene analysis. A portion of each sample also was submitted to Chemical Systems Laboratory for background determinations of CN-, Cl-, and F-levels. No trichothecenes were detected in any of these samples, indicating that nivalenol, deoxynivalenol, T-2, and diacetoxyscirpenol are not prevalent in the geographical area from which the alleged chemical warfare-exposed sample was collected. The appearance of these trichothecenes in high levels and unique combinations in a sample associated with a chemical attack—which produced symptoms typical of trichothecene exposure—indicates that these toxins may have been used as chemical weapons. This conclusion is further supported by the evidence provided by analysis of additional alleged chemical warfare samples from Laos and Kampuchea as described below.

Analysis of Additional Chemical Warfare Samples From Laos and Kampuchea for the Presence of Trichothecenes. The U.S. Army Medical Intelligence and Information Agency received from the Chemical Systems Laboratory three additional suspected chemical warfare samples for analysis for trichothecenes. The first sample consisted of 10 ml of water taken from the same chemi-

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TABLE D-1 (continued)

Symptoms of Chemical Attacks Reported in Laos, Kumpuchea, and Afghanistan

Symptom	% of Reports Mentioning Symptom	Tricho-thecenes	Nerve Agents	Arsines	Phosgene Oxime	Cyanogens	Incapacitant (BZ) *	Riot-Control Agents
Kampuchea								
Multiple deaths	72.4	X	X	X	—	X	—	—
Hemorrhage	62.06	X	—	—	X[d]	—	—	—
Dizziness and vertigo	51.7	X	X	—	—	X	X	X
Vomiting	41.3	X	X	X	—	—	—	X
Nausea	34.5	X	X	X	—	—	X	X
Skin irritation	27.6	X	—	X	X	—	—	X
Rapid loss of consciousness	24.1	X[b]	X	—	—	X	X	—
Fever	20.68	X	—	—	—	—	—	—
Headache	17.2	X	X	—	X	—	X	X
Tearing	13.8	X	X	X	X	X	X	X
Breathing difficulty	13.8	X	X	X	X	X	X	X
Fatigue	13.8	X	X	—	—	—	X	—
Paralysis	10.3	X	X	—	—	X	—	—
Numbness	6.9	X	X	—	—	X	X	—
Blurred vision	6.9	X	X	X	X	X	X	X
Dry throat and thirst	6.9	X	—	—	—	—	X	—
Edema	6.9	X	—	X	X	—	—	—
Salivation	3.4	X[c]	X	—	—	—	—	—
Vegetation affected	3.4	X	—	X	—	—	—	—
Diarrhea	3.4	X	X	X	—	—	—	—
Cough	3.4	X	—	X	X	X	X	X
Nasal discharge	3.4	X	X	X	X	—	—	X
Rash or blister	3.4	X	—	X	X	—	—	X
Chills	3.4	X	?	—	—	—	—	—
Hearing loss	3.4	X	—	—	—	—	—	—
Afghanistan								
Rapid loss of consciousness	47.9	X[b]	X	—	—	X	X	—
Skin irritation and itching	31.5	X	—	X	X	—	—	X
Multiple deaths	30.1	X	X	X	—	X	—	—
Nausea	20.5	X	X	X	—	—	X	X
Vomiting	19.1	X	X	X	—	—	—	X
Tearing	17.0	X	X	X	X	X	—	X
Dizziness and vertigo	16.4	X	X	—	—	X	X	X
Blisters or rash	15	X	—	X	X	—	—	X
Difficulty breathing	13.7	X	X	X	X	X	X	X
Paralysis	13.7	X	X	—	—	X	—	—
Headache	12.3	X	X	—	X	—	X	X
Temporary blindness	8.2	X	—	X	X	—	X	X
Salivation	6.8	X[c]	X	—	—	—	—	—
Loss of appetite	6.8	X	X	X	—	—	—	—
Effects on vegetation	5.5	X	—	—	—	—	—	—
Fatigue	5	X	X	—	—	—	X	—
Confusion	4.1	X	X	—	—	—	X	—
Hemorrhage	4.1	X	—	—	X[a]	—	—	—
Change in skin color	2.8	X	—	—	X	—	—	—
Diarrhea	2.8	X	X	X	—	—	—	—
Coughing	1.3	X	X	X	X	X	X	X

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[a] Bloody frothing

[b] Only at very high doses

[c] Depending on which trichothecenes

[d] Blood flecked frothing

cal attack site in Kampuchea as the leaf and stem sample previously examined. The second sample came from the site of a "yellow rain" attack occurring on March 13, 1981, in the village of Muong Cha (TF 9797) in the Phou Bia region of Laos. The agent was sprayed from a twin-engine propellor aircraft at about noon, local time. The falling substance was described as "like insect spray" and sounded like drizzling rain. Quite sticky at first, it soon dried to a powder. Symptoms described by victims included nausea, vomiting, and diarrhea. A sample of the agent scraped from the surface of a rock by a victim and carried into Thailand was turned over to U.S. Embassy personnel. The third sample was taken from the site of a "yellow rain" attack that occurred at 2:00 p.m. on April 2, 1981, at Ban Thong Hak (TF 9177). Twenty-four people reportedly died in this attack; there were 47 survivors. Symptoms included severe skin irritation and rash, nausea, vomiting, and bloody diarrhea. A survivor of the attack scraped this sample from the surface of a rock with a bamboo knife. Although the individual took precautions (that is, cloth mask), a severe skin rash and blisters developed.

These three samples were submitted to Dr. Mirocha for analysis. The water sample from Kampuchea contained 66 ppm of deoxynivalenol and a trace amount of diacetoxyscirpenol. A trace quantity of the second sample was screened as strong positive for trichothecenes. Further analysis of that sample confirmed the presence of high levels of T-2 toxin (150 ppm) and diacetoxyscirpenol (25 ppm). Nivalenol and deoxynivalenol may also be present but are being masked by interference from phtalate compounds (leached from the plastic packaging). An effort to modify the extraction process is being made in order to overcome the interference so that nivalenol and deoxynivalenol can be measured more easily. Interestingly, examination of the petroleum ether fraction from the sample revealed the presence of a yellow pigment almost identical to that previously identified by Dr. Mirocha in cultures of *Fusarium roseum*, indicating that the yellow powder probably consisted of the crude extract of a *Fusarium* culture.

There was little of the third sample contained in the vial received for testing. The quantity was too small to be weighed accurately, and inspection of the vial revealed only a small speck estimated to weigh much less than 0.1 mg. That speck contained 10 ng of diacetoxyscirpenol, a level equivalent to 100 ppm at the very least and probably much higher. The sample size was too small to allow adequate analysis for the other three trichothecenes of interest.

These results support the hypothesis that trichothecenes have been used as chemical warfare agents in Laos and Kampuchea. The presence of these high levels of trichothecene toxins in water and in yellow powder scraped from rocks argues against natural occurrence, since neither water nor rock is a suitable environment for growth of the fungi required to produce the toxins.

Differences between the analyses of the Kampuchean leaf and stem sample and the water sample collected from the same attack site raise additional questions. Failure to find T-2 toxin in the water sample is probably due to the relative insolubility of T-2 toxin in water. The presence of diacetoxyscirpenol in the water might be the result of biotransformation or breakdown of T-2, as they are so structurally similar, differing only in the substitution on carbon 8. While this hypothesis cannot be entirely ruled out, it is unlikely on the basis of known biotransformation of T-2 in the laboratory. The initial vegetation sample was not screened for diacetoxyscirpenol, although the mass spectra from the initial analysis will be reexamined for trace amounts of it.

The absence of nivalenol in the water sample is more difficult to explain because nivalenol is water soluble. The effect of environmental conditions and microorganisms on the stability of these compounds may vary widely for each of the specific compounds and may explain the analytical results. Further scientific investigation of these factors is needed.

Analysis of Blood Samples From Chemical Attack Victims

Blood samples drawn from victims of recent chemical attacks in Kampuchea have been received by the U.S. Army Medical Intelligence and Information Agency for analysis for indications of trichothecene exposure. Little is known concerning the rate of metabolism of trichothecenes in humans; it is difficult, therefore, to estimate the probability of detecting trichothecenes or their metabolites in blood samples. T-2 is rapidly cleared from the blood in animals, and 25% of the total dose is excreted within 24 hours after exposure; it is unlikely that trichothecenes could be detected unless blood samples were obtained within 24-48 hours after an attack. Other blood parameters are affected by the trichothecenes, however, and may prove to be useful markers. The trichothecenes induce a severe leukopenia (decrease in white cell count) which can persist for several weeks following exposure. In addition, the trichothecenes affect some liver and kidney function marker enzymes which can be monitored in the blood.

On October 11, 1981, four whole blood samples and four blood smears were received from the U.S. Embassy in Bangkok. The blood was drawn from four Khmer Rouge soldiers on October 7, 1981 at a Khmer Rouge hospital inside Kampuchea. Detailed medical histories as well as descriptions of the attack were recorded on each individual from whom a blood sample was taken. All four men were victims of a gas attack occurring near Takong on September 19, 1981. Symptoms experienced included vomiting, blurred vision, bloody diarrhea, difficult breathing, dry throat, loss of consciousness, frontal headache, tachycardia, and facial edema. Unfortunately, the samples could not be refrigerated until 48 hours after collection. Thus, it was impossible to obtain data concerning white cell counts and blood chemistry. The four whole blood samples were submitted to Dr. Mirocha for analysis for trichothecene metabolites because of the possibility, admittedly remote, that some of the metabolites might bind to blood proteins and might still be detectable even 3 weeks after an attack.

On October 22, 1981, additional blood samples were received. These had been drawn from nine victims from the September 19 attack and from four control individuals of similar age and background who had not been exposed to a chemical attack. The samples had been properly refrigerated and were accompanied by complete and detailed medical histories taken by trained medical personnel who examined the individuals. Included in the package were blood smears and heparinized and nonheparinized samples from each individual. The samples were submitted for blood assays to the U.S. Army Medical Research Institute of Infectious Diseases.

The above results show no statistically significant differences between exposed and control groups (students T-test). In eight individuals exposed to a chemical agent, a trend toward depressed white cell counts was observed. Such an observation would be compatible with the clinical picture of toxin exposure; however, it is also compatible with a number of other medical problems, and a larger control sample would be required before such results could be adequately interpreted. Abnormal liver and kidney functions were not indicated by these data.

Portions of the blood samples were analyzed by Dr. Mirocha for the presence of trichothecenes and/or trichothecene metabolites. The results of the analyses are consistent with trichothecene exposure in at least two of the gassing victims and tend to support the hypothesis that a trichothecene-based agent was used in this attack.

Using the selected ion-monitoring gas chromatography/mass spectroscopy analysis technique, Dr. Mirocha was able to identify tentatively a metabolite of T-2 toxin (that is, HT-2) in the blood of two alleged victims. The compound was identified on the basis of its selected ion masses and gas chromatographic retention times.

The tentative identification of HT-2 in the blood of two victims, and the trend toward depressed white cell counts in these same victims, cannot be taken as conclusive scientific proof of toxin exposure because the trace amount of the compound present precluded unequivocal identification and quantification and because many other medical problems in addition to toxin exposure can cause a decrease in white cell counts. It is interesting to note that the individual who showed the greatest amount of the compound tentatively identified as HT-2 in his blood reportedly received the greatest exposure to the agent. He was exposed to contaminated water for more than 30 minutes and was the only victim who fell down in the water and actually swallowed some of it. However, the description by victims of symptoms correlating exactly with those associated with trichothecene poisoning provides strong circumstantial evidence that trichothecenes were used as chemical agents in yet another chemical attack in Southeast Asia.

Trichothecenes have been identified previously in environmental samples taken from several other chemical attacks in Laos and Kampuchea. Analysis of control vegetation, water, soil, corn, and rice samples from these areas, as well as reviews of published scientific literature, indicates that the particular toxins that have previously been identified are not known to occur naturally in the combinations found and at the levels detected in Southeast Asia. The latest analysis results contribute another piece of evidence to the growing body of data supporting the charge that trichothecenes have been used as chemical/biological agents in Southeast Asia.

ANNEX E

OVERVIEW OF NATURAL OCCURRENCE AND SIGNIFICANT PROPERTIES OF TRICHOTHECENES

Historical Trichothecene Mycotoxicoses

The trichothecenes are members of a large group of naturally occurring toxins known as mycotoxins. The word "mycotoxin" is derived from the Greek "mykes" meaning fungus and the Latin "toxicum" meaning poison. It refers to a metabolite produced by a mold that is toxic to man and animals. Mycotoxicoses have been described as the "neglected diseases," and before 1960 English-language literature concerning the diseases caused by mycotoxins was scarce. Soviet scientists have been involved in research with some of these compounds for almost 30 years longer than their Western counterparts. The Soviet Union has had serious problems with mycotoxin contamination of food and has suffered several severe outbreaks of disease in humans. The first comprehensive studies of mycotoxin diseases were conducted in the Soviet Union in the late 1930s.

Since the 1940s, the group of mycotoxins figuring most prominently in Soviet scientific literature are the trichothecenes, a class of chemically related, biologically active fungal metabolites produced primarily by various species of *Fusarium*. Table E-1 lists some of the toxins in this group and producing fungi. The fungi are well-known plant pathogens that frequently invade many agricultural products.

Trichothecene toxins, perhaps more than any other mycotoxins, have been associated with acute disease in humans. Most of the human intoxications have occurred in the Soviet Union (Table E-2). The earliest recognized outbreak occurred in 1891 in the Ussuri district of eastern Siberia. Humans who consumed contaminated grain exhibited headache, chills, nausea, vomiting, vertigo, and visual disturbances. Dogs, horses, pigs, and domestic fowls reportedly were affected.

The most extensive mycotoxicosis outbreak reported to have caused multiple fatalities in man also occurred in the Soviet Union. In 1944, 30% of the population of Orenburg district, near Siberia, was affected by alimentary toxic aleukia (ATA), a disease later shown to be caused by ingestion of trichothecene toxins. More than 10% of the entire population of the district died of the disease. Many other outbreaks of ATA occurred in the Soviet Union, mainly during the 1942–47 period. The contamination was traced to overwintered millet, wheat, and barley infected with *Fusarium*. Symptoms of the disease included vomiting, skin inflammation, multiple hemorrhaging (especially of the lung and gastrointestinal tissue), diarrhea, leukopenia, and suppression of bone marrow activity.

In 1939, Premier Joseph Stalin dispatched Nikita Khrushchev to the Ukraine to organize and improve agricultural operations and to identify the disease causing the deaths of many horses and cattle. The problem was traced to hay and straw contaminated with *Stachybotrys atra*. The disease, later referred to as stachybotryotoxicosis, occurred after ingestion or contact with the contaminated grain. Symptoms included ulcerative dermatitis, peroral dermatitis, blood dyscrasias, hemorrhagic syndromes, abortion, and death. The greatest economic impact was due to loss of horses, although cattle, sheep, poultry, and humans also were affected.

Other disease outbreaks in which similar symptoms were present occurred in 1958 and 1959 among horses and cattle in the Soviet Union and Eastern Europe; thousands of animals were lost. Other intoxications were reported later

Soviet Scientists Involved in Mycotoxin Research

A. Kh. Sarkisov—All Union Scientific Research Institute of Experimental Veterinary Science, Moscow
V. I. Bilay (also spelled Bilai)—Ukrainian S.S.R. Institute of Microbiology and Virology, Kiev
V. A. Tutel'yan—U.S.S.R. Academy of Medical Sciences Nutrition Institute, Moscow
M. A. Akhmeteli—U.S.S.R. Academy of Medical Sciences Institute of Epidemiology and Microbiology

L. Ye. Olifson
M. F. Nesterin
K. Z. Salomatina
Ye. P. Kozhevnikova
N. D. Osadchaya
L. F. Mikhaylova
Sh. M. Kenina
V. L. Kartashova
L. R. Filonova
T. Ye. Tolcheyeva
Kh. A. Dzhilavyan
I. S. Yelistratov
N. S. Tishkova
V. I. Kaplun
Ye. P. Kozhevalkova
S. M. Gubkin
L. I. Il'ina
P. A. Il'in

A. M. Kogan
D. T. Martynenko
N. A. Kostyunina
V. V. Yermakov
I. A. Kurmanov
V. V. Semenov
Z. K. Bystryakova
Z. Z. Orlova
L. S. L'vova
L. I. Lozbina
T. A. Shevtsova
I. Yu. Makedon
N. S. Proskuryakova
A. V. Borovkov
M. N. Nazypov
L. I. Lozbin
M. S. Marova

in Japan, Europe, the Soviet Union, and the United States, affecting various domestic animals and—in the case of "red mold toxicosis"—man. All of these diseases have now been shown to be due to ingestion of trichothecenes rather than to an infectious agent. In earlier outbreaks, the levels of toxin present in the contaminated grain were not measured; however, the levels of nivalenol and/or deoxynivalenol measured in toxic grains implicated in more recent outbreaks (i.e., "moldy corn toxicosis" and "red mold toxicosis") typically were between 2 and 8 ppm.

Natural Occurrence of Trichothecene Mycotoxins

Publications concerning the occurrence of trichothecenes are relatively scarce because of the lack of convenient detection methods and the complexity of the trichothecene family of compounds. Only recently have scientists developed methods capable of distinguishing between close structural derivatives and accurately quantifying the levels of toxin present (see Table E-3 for comparison of analytical methods). Extreme care must be taken when reviewing the scientific literature on natural occurrence of these compounds because erroneous conclusions can be drawn on the basis of results obtained with inadequate analytical techniques. Misidentification of compounds and gross overestimation of concentrations have occurred using techniques such as thin layer chromatography.

Table E-4 lists the reports of natural occurrence of T-2 toxin, diacetoxyscirpenol, and nivalenol that were obtained from a literature search of more than 3,000 citations concerned with trichothecene toxins. Levels that are questionable on the basis of techniques used are indicated. It is immediately apparent that the levels of toxins found in the various samples from Laos and Kampuchea are highly unusual, even if one accepts the questionable reports in Table E-4 as valid. The levels of these toxins (150 ppm of T-2 toxin, 109 ppm of nivalenol, more than 100 ppm of diacetoxyscirpenol, and 66 ppm of deoxynivalenol) are markedly higher than those reported to occur in nature. It should also be noted that the incidences recorded in Table E-4 concern levels of toxin produced when *Fusarium* is growing on its ideal substrate, while the Laos and Kampuchea samples were taken from surfaces—rocks and water--that would be extremely unlikely to support *Fusaria* growth and toxin production. Higher levels of toxin production can, of course, be induced when the mold species is grown in pure culture under ideal laboratory conditions; for instance, the Soviets have succeeded in producing 4 grams of T-2 per kilogram of substrate. In a natural environment, however, the *Fusaria* species cannot compete well with other molds such as species of *Aspergillus* and *Penicillium*, and levels of toxin produced are orders of magnitude lower.

The conclusion that the levels of toxins found in the Southeast Asia samples could have occurred only by means of an unnatural mechanism is also strengthened by surveys of the area conducted

TABLE E-1

Trichothecene-Producing Fungi

Type	T-2 Type	Nivalenol Type	Macrocyclic
Trichothecenes	T-2 Toxin	Nivalenol	Roridins
	HT-2 Toxin	Monoacetyl Nivalenol	Verrucarins
	Diacetoxyscirpenol	Diacetyl Nivalenol	Satratoxins
	Neosolaniol	Deoxynivalenol	Vertisporin
Fungus	F tricinctum	F nivale	Myrothecium verrucaria
	F roseum	F episphaeria	
			M roridum
	F equiseti	F roseum	
	F sporotrichioides		Stachybotrys atra
			Verticimonosporium diffractum
	F lateritium		
	F poae		
	F solani		
	F rigidiusculum		
	F semitectum		

TABLE E-2

Historical Trichothecene Mycotoxicoses

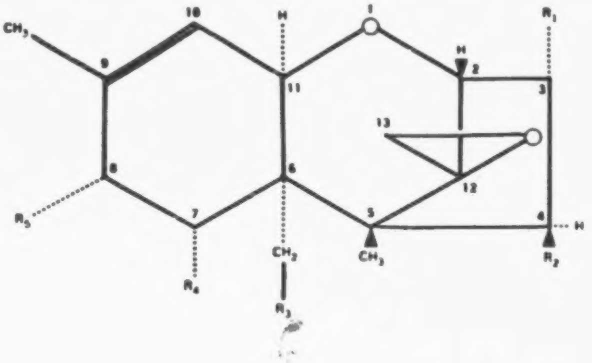
Toxicosis	Districts and Affected Species	Symptoms
"Taumelgetreide" Toxicosis	U.S.S.R. man, farm animals	Headache, nausea, vomiting, vertigo, chills, visual disturbances
Alimentary toxic aleukia	U.S.S.R. man, horse, pig	Vomiting, diarrhea, multiple hemorrhage, skin inflammation, leukopenia, angina
Stachybotryotoxicosis	U.S.S.R., Europe horse	Shock, stomatitis, hemorrhage, dermal necrosis, nervous disorders
Bean-hull toxicosis	Japan horse	Convulsion, cyclic movement
Dendrodochiotoxicosis	U.S.S.R., Europe horse	Skin inflammation, hemorrhage
Moldy corn toxicosis	United States pig, cow	Emesis, hemorrhage
Red mold toxicosis	Japan, U.S.S.R. man, horse, pig, cow	Vomiting, diarrhea, congestion and hemorrhage of lung and intestine

by various researchers. Surveys of the toxigenic fungi and mycotoxins naturally present in Southeast Asia conducted by the Mahidol University in Bangkok and the Massachusetts Institute of Technology have not revealed the presence of T-2, nivalenol, deoxynivalenol, or diacetoxyscirpenol, although other mycotoxins such as aflatoxin were identified. These results were confirmed by our analysis, using our own methodology, of normal flora samples of vegetation, soil, water, corn, and rice from Kampuchea that failed to reveal the presence of trichothecenes.

Skeptics have formulated theoretical explanations for the analytical results to support a hypothesis of natural occurrence of these toxins. It was postulated that the trichothecenes found were absorbed through the roots of a plant, translocated to the leaves, and exuded and washed onto the surface of a rock and into water where they were found. A 1981 publication by Jarvis et al. reported a Brazilian shrub that appeared to absorb, translocate, and chemically alter a macrocyclic trichothecene produced by soil fungi. While this citation is used to support a hypothetical mode for natural deposition in Southeast Asia, it should be noted that the plant reported in this publication did not exude the toxin, that the toxin was extremely phytotoxic to all other plants assessed, and that the plant was not capable of de novo trichothecene synthesis. No other trichothecenes have been found to be absorbed and translocated in any other plant in this manner. Control samples of soil and vegetation from Southeast Asia do not support endemic presence of these toxins. The appearance of these particular trichothecene toxins in these high levels in environments generally inhospitable to their formation cannot reasonably be attributed to a natural contamination.

FIGURE E-1

General Structure of Trichothecenes



T_2 Toxin	Nivalenol	Deoxynivalenol
R_1=OH	R_1=CH	R_1=OH
R_2=OAc	R_2=CH	R_2=H
R_3=OAc	R_3=OH	R_3=OH
R_4=H	R_4=OH	R_4=OH
R_5=OCOCH$_2$CH(CH$_3$)$_2$	R_5= =O	R_5= =O

Chemical and Physical Properties of the Trichothecenes

When considering the suitability of trichothecenes as agents, factors such as stability, solubility, and ease of production must be considered. The general structure for the trichothecene group is shown in Figure E-1. There are more than 40 currently known, naturally occurring, 12 to 13 epoxytrichothecenes. The R groups may be hydroxyls, acylated hydroxyl groups or esters. The R group for the toxins detected in the sample is shown below the general structure. All of the compounds have in common an olefinic double bond at carbon atoms 9 and 10 and an epoxy group at carbon atoms 12 and 13. These compounds are stable, especially in the solid form. They may be stored for years at room temperature with no loss of activity. They are heat stable with no loss of activity noted after heating for 1 hour at 100° centigrade. The solubility depends on the R groups; highly hydroxylated derivatives are more water soluble. The compounds are also quite stable in solution. Detoxification can be accomplished by treatment with strong mineral acid, which will open the 12 to 13 epoxide bond and abolish all biological activity. Most of the toxins are well absorbed through mucous membranes and some through skin; this property is also a function of the R group.

Some of these compounds have been synthesized chemically; however, biosynthesis employing *Fusarium* species is the most effective way to produce large quantities. In a preliminary search of recent Soviet literature, 50 articles dealing

TABLE E-3

Physicochemical Methods for Detection of Trichothecenes in Feedstuffs

Method	Trichothecenes Detected	Detection Limits	Required Standards	Use and Limitation
Thin-layer chromatography 1-dimension	All	0.1 microgram/spot (H_2SO_4)	Reference Standard	Qualitative Interference Not confirmatory
Thin-layer chromatography 2-dimension	All	0.1–1.0 microgram/spot (H_2SO_4)	Reference Standard	Qualitative Less interference Confirmatory
Gas liquid chromatography	Nonhydroxylated or TMS derivatives	0.03–0.05 microgram/microliter injection	Reference Standard	Qualitative Monoglyceride interference Equivocable identification
Gas chromatography/mass spectrometry-normal scanning mode	TMS derivatives	0.02–0.05 microgram/microliter injection	Reference Standard or Spectrogram	Semiquantitative Less interference Unequivocable identification
Gas chromatography/mass spectrometry-selection ion monitoring	TMS derivatives	0.007–0.02 microgram/microliter injection	Reference Standard or Spectrogram	Quantitative Best for complex mixtures Unequivocable identification
Nuclear-magnetic resonance	All	—	Reference Standard or Spectrogram	Confirmatory Purified toxin structure elucidation
Radio-immunoassay (developmental stage)	T-2 toxin	1–20 nanogram	Rabbit anti-T-2 toxin anti-body	Sensitive Low interference
			HT-2 toxin	Relative structural specificity

with the trichothecenes were reviewed. Of these, 22 dealt with defining optimum conditions for biosynthesis of the compounds. N.A. Kostyunina has reported production of T-2 toxin at levels of 4 grams per kilogram of substrate (normally wheat grain or rice). Many industrial microbiology plants have been identified in the Soviet Union. Some are involved in production of single-cell protein for fodder additives, others produce antibiotics, and the function of still others is unknown. *Fusaria* are produced in the Soviet Union at a facility long reported in the open literature as being a suspected biological warfare agent production and storage facility. This facility, Berdsk Chemical Works, is near the science city of Novosibirsk in Siberia. The only difference between an antibiotic and mycotoxin is their target specificity. Both are produced by fungi, but the mycotoxins are relatively more toxic to man than to microorganisms. Mycotoxins can be produced in good yield employing the same techniques used to produce some antibiotics. Thus, it may be concluded that the Soviets could produce trichothecenes in large amounts. They produce an antibiotic that is a trichothecene derivative, which would provide an ideal cover for agent production facilities.

Medical Effects of the Trichothecenes in Humans

The most prominent symptoms associated with trichothecene poisoning are listed in Table E-2. Striking among these is the rapid onset of vomiting, along with severe itching and tingling of the skin. Hemorrhage of the mucous membranes and bloody diarrhea follow. The symptoms shown in Table E-2 are similar to those reported by victims of trichothecene attacks in Laos, Kampuchea, and Afghanistan. The correlation is striking.

The LD_{50}'s (dose required to produce death in 50% of a test population) of the trichothecenes in laboratory animals range from 0.1 mg/kg to greater than 1,000 mg/kg, depending on the particular toxin, species, and route of exposure. The LD_{50} of T-2 toxin in a cat is 0.5 mg/kg. However, the ED_{50} (dose required to produce a desired physiological effect in 50% of a test population) is much lower. The ED_{50} to produce a vomiting reaction is 0.1 mg/kg; for skin irritation it is in the tenths of microgram range.

Most of the data concerning the toxicological effects of the trichothecenes are derived from animal data in which pure compounds were administered by oral, subcutaneous, intraperitoneal, or intravenous routes. Unfortunately, there are no reports concerning the effects of inhalation of mixtures of the compounds. Therefore, it is difficult to speculate concerning the effects that would be expected in humans exposed to an aerosol of mixtures of these potent toxins. The most useful data concerning exposure in humans were obtained in a phase I clinical evaluation of anguidine (diacetoxyscirpenol) as an anticancer drug. Diacetoxyscirpenol was administered by intravenous infusion. Doses of 3 mg/m²/day caused immediate onset of nausea, vomiting, diarrhea, somnolence and/or mental confusion, fever, chills, a generalized erythema with a burning sensation, hypotension, dyspnea, stomatitis, hives, and ataxia. Because of the side effects, the treatment was discontinued. The properties which make the use of diacetoxyscirpenol potentially useful as an anticancer drug are the same as those responsible, in part, for its extreme toxicity. It and the other trichothecenes cause extensive damage to rapidly dividing cells such as tumor cells. Unfortunately, the cells of the lining of the gastrointestinal tract and bone marrow are also rapidly dividing, and the effects of the trichothecenes on these cells result in severe, rapid degeneration of these tissues. The compounds also have direct effects on the clotting factors in the blood (that is, a primary effect on Factor VII activity and a secondary effect on prothrombin), which result in excessive hemorrhage following trauma.

The other useful body of clinical data concerning the effects of trichothecenes in humans is drawn from descriptions of the course of the disease in the natural

TABLE E-4

Spontaneous Occurrence of Trichothecene Mycotoxins

Toxin	Country	Source	Concentration (parts per million)	Reference[a]
T-2 Toxin	U.S	Mixed feed	0.08[b]	15
	U.K	Brewer's grains	ND[c]	19
	India	Sweet corn	4[b, d]	5
	Canada	Corn	ND	4
	India	Sorghum	ND[d]	22
	Canada	Barley	25[d]	20
	India	Safflower seed	3-5[d]	6
	U.S	Corn stalks	0.11[b]	16
	U.S	Feed supplement	ND	7
	U.S	Corn	2	8
	U.S	Mixed feed	0.3	14
	France	Corn	0.02[b]	10
	U.S	Corn	ND	2
Diacetoxyscirpenol	U.S	Mixed feed	0.5	15
	U.S	Mixed feed	0.38	15
	India	Safflower seed	3-5[d]	6
	India	Sweet corn	14[d]	5
	Germany	Corn	31.5[d]	23
	U.S	Corn	0.88	21
Deoxynivalenol	U.S	Corn stalks	1.5[b]	16
	U.S	Corn	1.8[b]	15
	U.S	Corn	1.0[b]	15
	U.S	Corn	0.1[b]	15
	U.S	Mixed feed	0.04[b]	15
	U.S	Mixed feed	1.0[b]	15
	U.S	Mixed feed	1.0[b]	15
	U.S	Corn	7.4	9
	U.S	Corn	0.1-25[d]	21
	U.S	Corn	trace-25[d]	2, 21
	U.S	Corn	1.1-10.7	26
	U.S	Corn	41	25
	U.S	Corn	1.0[b]	17
	U.S	Oats	5	17
	Japan	Barley	ND	18
	U.S	Corn	1.0[b]	13
	U.S	Corn	0.06[b]	13
	U.S	Mixed feed	0.07[b]	13
	France	Corn	0.6[b]	10
	South Africa	Corn	2.5	11
	Zambia	Corn	7.4	11
	U.S	Corn	ND	2
	Japan	Barley	7.3	18
	Austria	Corn	1.3	24
	Austria	Corn	7.9	24
	Canada	Corn	7.9	24
Nivalenol	Japan	Barley	ND	18
	France	Corn	4.3[b]	10
Partially characterized trichothecenes	U.S	Corn	ND	25
	India	Safflower seed	ND[d]	6
Skin irritant factors—not analyzed chemically	U.S	Corn	93 positive[b] of 173	3
	U.S	Corn	Multiple positive samples	21
	Yugoslavia	Corn	16 positive of 191	1

FOOTNOTES

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[a] References

1 Balzer *et al* (1977)
2 Ciegler (1978)
3 Eppley *et al* (1974)
4 Funnel (1979)
5 Ghosal *et al* (1978)
6 Ghosal *et al.* (1977)
7 Hibbs *et al* (1974)
8 Hsu *et al* (1972)
9 Isshi *et al* (1975)
10 Jemmali *et al.* (1978)
11 Marasas *et al* (1977)
12 Miller (1976)
13 Mirocha (1979)
14 Mirocha (1979)
15 Mirocha *et al* (1976)
16 Mirocha *et al* (1979)
17 Mirocha *et al* (1979)
18 Morooka *et al* (1972)
19 Petrie *et al* (1977)
20 Puls and Greenway *et al* (1976)
21 Romer, T., Ralston Purina, St. Louis, MO (personal communication)
22 Rukmini and Bhat (1978)
23 Siegfried (1979)
24 Vesonder and Ciegler (1979)
25 Vesonder *et al.* (1976)
26 Vesonder *et al* (1978)

[b] Zearalenone (F-2 toxins) also detected in the sample

[c] ND = toxin concentration was not determined

[d] Levels that are questionable on the basis of techniques used

outbreaks that occurred in the Soviet Union. The effects produced are similar to radiation poisoning, and there is a latent phase similar to that seen in radiation poisoning, in which the overt symptoms disappear.

The clinical picture may be divided into four stages.

The first stage occurs within minutes to hours after ingestion of toxic grains. The symptomatology described was produced by oral exposure to low doses. In exposure by inhalation, the symptoms may be more pronounced or the time course accelerated. The characteristics of the first stage include primary changes, with local symptoms, in the buccal cavity and gastrointestinal tract. Shortly after ingestion of toxic grain, the patient experiences a burning sensation in the mouth, tongue, throat, palate, esophagus, and stomach as a result of the toxin's effect on the mucous membranes. The tongue may feel swollen and stiff, and the mucosa of the oral cavity may be hyperemic. Inflammation of the gastric and intestinal mucosa occurs, along with vomiting, diarrhea, and abdominal pain. In most cases excessive salivation, headache, dizziness, weakness, fatigue, and tachycardia accompany the initial stage. There may be fever and sweating, but the body temperature normally does not rise. The leukocyte count may begin to decrease in this stage, and there may be an increased erythrocyte sedimentation rate. This first stage may last from 3 to 9 days.

The second stage is often called the latent stage or incubation period because the patient feels well and is capable of normal activity. It is also called the leukopenic stage because its main features are disturbances in the bone marrow and the hematopoietic system, characterized by a progressive leukopenia and granulopenia and a relative lymphocytosis. In addition, anemia and a decrease in erythrocytes, in the platelet count, and in hemoglobin occur. Disturbances in the central nervous system and autonomic nervous systems may occur as well as weakness, vertigo, fatigue, headache, palpitations, and mild asthmatic conditions. Visible hemorrhagic spots (petechiae) begin to appear on the skin, marking the transition to the third phase. The second stage may last 3–4 weeks. The transition to the third stage is sudden, and symptoms progress rapidly.

In the third stage, petechial hemorrhages occur on the skin of the trunk, arms, thighs, face, and head. They can vary from a millimeter to a few centimeters in size. Capillaries are fragile, and any slight trauma results in hemorrhage. Hemorrhages of the mucous membranes of the mouth, tongue, soft palate, and tonsils occur. Nasal, gastric, and intestinal hemorrhages can be severe. Areas of necrosis begin to appear on the lips, fingers, nose, jaws, eyes, and in the mouth. Lymph nodes are frequently enlarged, and the adjoining connective tissue can become so edematous that the patient has difficulty opening his mouth. Blood abnormalities previously described are intensified. Death may occur from hemorrhage, strangulation due to swelling, or secondary infection.

The fourth stage is convalescence. Three or 4 weeks of treatment are required for disappearance of necrotic lesions and hemorrhagic effects. Two months or more may elapse before the bloodforming capability of the bone marrow returns to normal. ■

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Mr. **Young**. I think that would be helpful if you did, and I want to ask you one further question on that subject. In your earlier comments that I referred to, you also said we know what it is, talking about the mycotoxins. You know exactly what it is? You know that it is not a natural fungus that you described that might grow on bread.

Dr. **Beary**. Well, we know chemically what it is, and our expectations are that it is being produced most likely by the fermentation processes, although organic chemists are clever people, and it is not beyond expectations that people might not be able to synthesize it by now.

Mr. **Young**. But you are satisfied this is a synthesized product, as opposed to a natural product that we are seeing that causes the problems in Southeast Asia, or in Afghanistan?

Dr. **Beary**. We think it is a biologically derived product, and it really would not make any difference in terms of the way that treaty was written, because it was simply toxins and did not say you had a loophole if you learned how to make it and were clever and could start using it.

The treaty is very clear. Whoever is sponsoring the use of that stuff is breaking the law.

FLEET HOSPITALS

Mr. **Young**. If you reviewed last year's transcripts on the subject of medical care for uniformed personnel, you will find that several of us went quite deeply into the question of fleet hospitals and immediate medical care for anyone who was injured in combat.

I see now that the program includes $74.3 million this year for fleet hospitals. I somehow believe that the fleet hospital you are talking about this year is not the same as the fleet hospital you talked about last year.

Am I correct, or am I wrong on that?

Dr. **Beary**. I think you are basically correct there, because the concerns your committee expressed about the incoherence of the tri-service program were taken into account. We feel we have a credible mechanism to assure that we will get the efficiencies we can, by recognizing that the Army appendix is the same as the Navy appendix, and if we can't, we will lay it out to you, respond to your criticism. But we think your assumptions are well-founded, and we intend to be responsive to them.

Mr. **Young**. One of the very specific criticisms was "you all did not have your act together". There was no coordination; you were not really working together. Is that problem pretty much behind us now?

Dr. **Beary**. Yes sir it is.

Mr. **Young**. The fleet hospital, then, that you are talking about for this budget, will it be a similar type facility as the fleet hospital we talked about last year—a relocatable building, for example, with generators, with operating rooms?

Dr. **Beary**. I might just lay out the essence of what it is we are talking about: standardized shelters, the so-called ISO shelters, because of their ease of transport and various standardized transportation systems. We are talking about a standardized power source.

As you recall, the MUST hospital never turned out to be successful because it took more fuel than a division could ever possibly carry with it. And, the professional package, i.e., the configuration over the O.R. and that sort of thing, pretty well speaks for itself as being rather standard equipment. So, by having a common logistic base there will be some interchangeability when an Air Force or Army unit breaks down. They would borrow stuff from the Navy instead of having all these incompatabilities that we have right now.

Mr. YOUNG. These units are transportable by what method? Let's say there was a rapid deployment joint task force deployment to Southwest Asia. How would you get these fleet hospitals from here to there?

Dr. BEARY. Well, they are a standardized container, so they could go by ship or by C-5. I saw one set up and it had jacks on the side to level it, and you could attach wheels to it to pull it. I am no engineer, but it seemed like a reasonable system.

Mr. YOUNG. Now, the fleet hospitals that we talked about last year were to be set up behind the combat zone in what we call the communications zone. Is my memory correct?

Admiral Cox. You are correct.

Mr. YOUNG. Is this still the plan?

Admiral Cox. No sir. The ones that are in this budget are for the lighter versions combat zone fleet hospital.

The figure is two-500 bedders and——

Mr. YOUNG. Two-250's?

Admiral Cox. Two-250's.

That is the 1,500 beds. They are relocatable within that combat zone. Of course, you would want to find a reasonably secure area within the combat zone because you can't pick it up on your back. But with a lot more tentage than in the version you saw last year, the mobility is increased and it is erectable by its own staff without requirement of a Seabee battalion.

But you do give up certain characteristics of its sophistication, and the environment deteriorates, but that is a necessary tradeoff in the combat zone because you have to have the mobility.

Mr. YOUNG. How long would it take for the staff to erect this version of the fleet hospital?

Admiral Cox. Seventy-two hours—48-to-72 hours.

Mr. YOUNG. It will have its own power supply the same as other fleet hospitals? If I remember correctly, we had a water problem that supposedly was taken care of in the last year's fleet hospital. Will this year's fleet hospital program provide water utilities?

Admiral Cox. It is virtually self-contained. Simply self-contained, plugged together, instead of having to dig holes—the waste disposal in vacuum kinds of commodes that use two pints of water instead of five gallons.

Mr. YOUNG. What is the price per bed of this year's fleet hospital versus last year's?

Admiral Cox. Per bed, may I answer that for the record?

Mr. YOUNG. Sure.

[The information follows:]

Last year our estimated cost per bed was $59,000. This year it is $49,000 per bed.

Mr. YOUNG. Now, Mr. Murtha had gotten into the question of the flow of the casualties. Where will the casualty coming to the fleet hospital be coming from, a battalion aid station, or what level of medical care will he have received prior to arriving at the fleet hospital?

Admiral COX. He may have received attention at the battalion aid level and have been evacuated by helicopter directly, or he may have been flown, or gone by surface from the battalion aid station to the medical company to the hospital company. He may have even had some required urgent surgery and then been evacuated for more definitive surgery to this element.

Mr. YOUNG. Will that casualty go next from the fleet hospital to the next destination?

Admiral COX. From there back to duty, or ultimately on an aircraft to CONUS.

Mr. YOUNG. You would not then move him to a higher level of medical facility?

Admiral COX. The combat zone fleet hospital is the only thing we are going after in this early stage of the program. It would have to be either to a hospital ship, when that comes online in 1986, or back to CONUS because the more definitive care in the communications zone heavier fleet hospitals are in the program in later years. They would have to be erected.

Mr. YOUNG. At this point, then, the program does not call for any facility in the communications zone?

Admiral COX. The program does not in fiscal 1983-85.

Mr. YOUNG. The program for this fiscal year is what I should have said.

Admiral COX. It does not. We would be augmenting our fixed facilities with buildings of opportunity in the overseas areas——

Mr. YOUNG. Well, since you suggested that, then from the fleet hospital in the combat zone the casualty could be flown to CONUS or back to duty. You are anticipating a rather total medical care for that patient?

Admiral COX. Yes, the combat zone fleet hospital, even when it is the only thing we have got, will have pretty good capability.

Mr. YOUNG. How long would you keep a patient there?

Admiral COX. It calls for 15-day evacuation policy.

Mr. YOUNG. A maximum of 15 days?

Admiral COX. Right. As soon as it was determined that he could not be returned to duty within the 15-day timeframe, then as soon as he is stable and able to be transported back to the level of care required, that decision would be made early, and he would be transferred out.

Mr. YOUNG. Dr. Beary, is that the same way you see this project now?

Dr. BEARY. Yes sir, that flow is a reasonable one. I think the budget is on track, and I intend to continue to monitor very carefully these two major shortfalls I described to you, deployable operating rooms and the surgeons' workrooms; but I think we have got a system starting to come in place now.

Mr. YOUNG. Okay. How about the Army and Air Force? Are you all satisfied that this system is workable and all the Services can be more or less unified in the use of this type of facility?

General **Mittemeyer**. I would fully concur with the concept of working to a uniform system that would provide not only standardization among the Services, but also exchangeability. I think it is an excellent program.

Mr. **Young**. I think my question is, is this system one that the Army will be satisfied with?

General **Mittemeyer**. Yes sir.

Mr. **Young**. How about the Air Force?

General **Chesney**. We are satisfied with the basic system. We are more than 99 percent common with the Navy fleet hospital in our 500-bed hospital. However, the Air Force tends to put our patients on a fixed base, where we get the power, the electricity, the fire protection, the laundry, and so forth, from the Air Force base, and our cost will be much less than the other Services.

Mr. **Young**. I certainly understand that. But I think it would be safe to say, then, that the criticism that we had presented to us last year, that the Services really had not gotten together and did not have any kind of common direction, that criticism is behind us now. The fact is, we are getting together; we do have a common direction, and it is essential to move ahead to provide this medical care for any troop who finds himself a casualty in combat.

Dr. **Beary**. That is a good summary of the status quo.

General **Mittemeyer**. I might make one comment. In those hospitals where we differ slightly as the Mobile Army Surgical Hospital, which we are converting in order to have around-the-clock, 24-hour capability, we are standardizing the equipment sets and also the staffing guidelines so that we would indeed meet common requirements.

Mr. **Young**. Mr. Chairman, I have some additional questions in writing I would like to submit and have them appear at this point in the record.

Mr. **Addabbo**. Without objection.

[**Clerk's note**.—Questions submitted by Mr. Young and the answers thereto follow:]

CONTINGENCY HOSPITAL PROGRAM

Question. The recent GAO Report titled "Variations in the Military Services Contingency Hospital Program" states that the services have not developed estimates for the total costs of their contingency hospital programs because sites are not yet known. Please comment on this. I think you appreciate that this committee cannot approve programs that are not well planned and estimated.

Dr. **Beary**. The Services have developed cost estimates for the majority of their programs. The unknowns pertain only to those functions currently being requested under Host-Nation Support (HNS) Agreements. HNS can provide tremendous savings, and the Services have been directed to use it wherever possible. When our Allies respond to our requests, detailing what they can and cannot provide, the Services will then be in a position to cost out the remainder of their programs.

Army Answer. Contrary to what is reported in the subject GAO report, the Army does have clearly identified site locations, and there are well-defined plans and milestone schedules for fully developing these sites. In the United Kingdom (UK), the Army has host-nation approval for ten sites, which will hold the required number of Communications Zone Hospital beds. One of these 10 sites is not fully controlled and operated by the US Army, as of 6 July 1982, and the Army intends to place a seven-person Medical Planning Cell there. Additionally, the Army plans to forward deploy the equipment for two-1000 bed General Hospitals at this newly acquired site where it will be placed in a turn-key configuration. The Army has conducted engineer site surveys at two of the ten sites, in order to identify all required facility modifications needed to change existing buildings into functioning wartime hospitals. There is a milestone schedule for completing the engineer site surveys at the remaining eight sites by not later than first quarter, fiscal year 1985. The Army's intent is to acquire co-located storage at all sites and make any facility modifications that can be accomplished in peacetime.

Navy answer. We are planning two types of deployable medical facilities—combat zone and communications zone. The combat zone hospitals do not rely on existing facilities. They are complete and self-sustaining and costs can be accurately estimated. However, the communication zone hospitals rely on existing host nation buildings, utilities, road systems, and other infrastructive support. Since the State Department has not yet negotiated support agreements with potential host nations, we do not yet know what facilities will be offered. Therefore, we cannot estimate the cost of renovating or supplementing those facilities. However, we will know these costs before we ask the Committee for the funds for these communication zone hospitals in fiscal year 1985. The hospitals in the fiscal year 1983 and fiscal year 1984 budget are for the combat zone and have been carefully planned and estimated.

Air Force answer. All sites are not yet known. Our desire and intent is to use buildings of opportunity where they can be found. While there normally will be a cost to repair buildings of opportunity and upgrade utility systems, economic analyses performed so far have shown that the costs are far less than those required to construct new facilities. Sites have been identified for all 500-bed hospitals programmed thorugh fiscal year 1983. We do not have specific operational sites identified for the 250-bed RDF hospitals. They will be operationally sited along with the line of the Air Force in South West Asia. In the interim, the 250-bed hospitals will be stored at the Marine Corps Logistic Base at Albany, Georgia.

GAO REPORT—NAVY

Question. The GAO Report states that the Navy plans to buy shelters for the entire medical core, even though it will use existing buildings as much as possible for other functions. Why do you want to do this considering the added cost involved?

Admiral Cox. The The critical medical and surgical functions require close environmental control for clean conditions. We are not yet sure of the quality of the space we will be offered. Therefore, in our preliminary planning, we intended to take with us what was required for a high rate of medical success. However, as we inspect each site and find that conditions are suitable, we will reduce our purchases to exploit existing facilities. There is ample time to do this before we ask the Committee for funds for the prepositioned hospitals in fiscal year 1985.

Question. With respect to your prototype Navy field hospital, the GAO report states that you were able to set up only 40 percent of a hospital core in 30 days. How do you expect to erect a complete hospital in 30 days?

Admiral Cox. The prototype assembly was test of both equipment and method under peacetime conditions. Erection time was not a major test item. The units were assembled and disassembled repeatedly to test erection techniques. Also, work done in an eight hour day by the reserve Seabee units. In a contingency situation, work would continue around the clock by Seabees in a higher state of readiness. Also, the lesson learned with the prototype were applied to the final design to make it more efficient.

Question. The GAO Report concludes that the many joint service medical coordination efforts of the past several months have not yet affected the services deployable medical facility programs. Do you agree that this is the case?

Dr. Beary. Not entirely; while the degree of development may be argued, significant progress has been made. For example, the Services have already effected standardization of power generation/environmental control systems and shelters for deployable combat hospitals. The coming year will be one of extremely rapid progress toward standardization.

Army answer. No, considerable progress has been made in several areas related to our deployable medical systems program. Efforts of the Military Field Medical Systems Standardization Steering Group (MFMSSSG) have resulted in standardization of combat zone shelter and of power systems and the identification of functional components. In addition, The Surgeons General have agreed to use the same major investment equipment items in five of the most common functional components and will include only D-Day significant materiel identified by multi-Service, multi-disciplined task forces in outfitting all functional components. Increased inter-Service standardization of deployable medical systems will result from the execution of Program Objectives and milestones established by the MFMSSSG and approved by The Surgeon General.

Navy answer. No, sir. This recent coordination has changed our programs in a major way. For example, the hospitals the Navy planned to buy in fiscal year 1983 have been redesigned to use DOD standardized shelters. The services have also achieved 90 percent commonality of medical equipment, as directed by the Office of the Secretary of Defense. DOD generators are standardized. DOD civil engineering support equipment is standardized. The Navy has given the Army and Air Force copies of its 500 bed communications zone hospital design for comment. This design will be standardized. We have also changed the design to make the hospitals lighter and more mobile to conform more closely with Army field and evacuation hospitals. These changes have already made it possible for the Navy to buy 1,500 beds in fiscal year 1983, 250 beds more than were contained in the President's budget, for the same $74.3M your Committee is considering today. These savings should increase in the future as joint service standardization progress. The GAO Report does note this savings.

Air Force answer. No. Significant progress has been made through joint Service coordination. Joint Service medical coordination has already instituted standard drug lists, identical shelter systems, generators and power distribution systems, and common medical equipment lists. On-going efforts of the Services will produce more agreements on commonality of deployable medical facility programs.

Question. How would you characterize the major differences remaining among the services deployable medical facilities?

Dr. Beary. The data on hand do not permit us to define the degree of commonality between those deployable medical facilities which have been previously procured. However, for deployable medical facilities procured in the future, our new standardization policy will ensure that any major differences that may exist among service facilities will be clearly justified due to distinct Service missions, patient workload differences, and battlefield locations.

Question. What will the consequences be if the Committee chooses not to fund your deployable medical facilities request in fiscal year 1983?

Army Answer. Failure to fund the deployable medical facilities request in fiscal year 1983 will further exacerbate an already critical situation. As enumerated by the Acting Assistant Secretary of Defense (Health Affairs) before the Defense Subcommittee on 3 August 1982, the Services could not presently provide the initial surgery needed to assure the survival of most wounded soldiers, much less the care required to assure their fully functional recovery. When considering the huge demand on aircraft to move equipment for deployable medical facilities, as well as the long lead-time required if the equipment build were not initiated until after D-Day, there would be a very serious impact in terms of additional days and months required to have hospital facilities operational in the Theater of Operations. These delays would be measured in terms of additional wounded soldiers who would die because of a lack of available medical care.

Navy answer. The only capability the Navy and Marine Corps have at present, beyond that of their organic medical combat units, is a 1000 bed rapidly deployable medical facility. This is only 8 percent of the 11,250 bed requirement. The 2000 bed hospital ship will not be available before 1986. Even if the committee approves the Navy fiscal year 1983 request, the deployable medical facilities will not be ready before fiscal year 1985. The impact of another one-year funding delay would be increased mortality, morbidity and disabilities and decreased fighting effectiveness if our nation had to fight before 1986.

Air Force answer. The medical impact would be an increase in patient morbidity and mortality and a very low in-theater return to duty rate during the early critical period of the war.

Not funding this request will nullify our first step toward recovery of an adequate wartime medical support capability. As Dr. Beary mentioned in his testimony, the Air Force hospitals funded in fiscal year 1982 will become available for RDJTF support in

1984, and will provide the only substantive improvement in our field medical support capabilities before 1985/6.

NAVY DEPLOYABLE MEDICAL SYSTEMS

Question. The Navy budget includes $74.3 million for the Fleet Hospital Program. The support documentation supplied to the Committee by the Navy does not specify what specific systems would be procured with these funds. However, earlier this year the staff was told that the funds were to procure two 500-bed RDF Combat Zone Hospitals, and one 250-bed RDF Combat Zone Hospital. According to the GAO report, the Navy changed its program on June 22, 1982. The fiscal year 1983 program now apparently includes two 500-bed hospitals, and two 250-bed hospitals.

Is the situation, as I have described it, correct?

Admiral Cox. The situation you have described in correct.

Question. Why did the Navy change its mind five months after the budget was submitted? How does the overall program differ from what was planned last year, and what was assumed when the budget was submitted?

Admiral Cox. The change in the program was initiated as a result of last year's congressional review; the changes were not completed until this spring when we advised GAO and this committee of the changes. The original Navy program was based on Communications Zone hospitals using specialized shelters which the Navy considered most efficient. At the committee's direction to standardize, the Navy converted its hospitals from the Communications Zone to the Combat Zone and adopted standard DOD shelters, i.e. International Standardization Organization boxes and Tents, Modular, Extendable, Personnel tents. The Combat Zone hospitals are smaller, with less equipment, and lighter than the Communications Zone hospitals. The saving of $15M permitted us to buy one more 250-bed hospital for a total of 1500 beds in fiscal year 1983.

Question. How can the Navy buy four hospitals with a 1,500-bed capability with the same funds required to buy three hospitals with a 1,250-bed capability?

Admiral Cox. The change to DOD standardization shelters and Combat Zone hospitals saved $15 million. This is enough to buy one additional 250-bed hospital.

Question. What is the estimated total cost of each of the Navy's 250-bed and 500-bed RDF Combat Zone hospitals, and the 500-bed and 1,000-bed Communications Zone hospitals? Give us the totals now, and provide a complete breakdown for the record.

Admiral Cox. The breakdown of all total costs you have requested are as follows: See charts below:

Mr. YOUNG. Provide for the record the procurement and funding profile for the Navy's Deplorable Medical System program.

Admiral COX. The procurement and funding profile for the Navy's Deployable Medical System program follows:

FLEET HOSPITAL PROCUREMENT PLAN
(3 MAF/2 FLEET)

	FY-83	FY-84	FY-85	FY-86	FY-87	FY-88
HOSPITALS	(1) 250 CBTZ (1) 250 CBTZ (2) 500 CBTZ	(2) 500 CBTZ (1) 500 COMM Z	(1) 500 COMM Z (1)1000 COMM Z (1) 500 CBTZ	(1) 500 COMM Z (1)1000 COMM Z (1)1000 COMM Z	(1) 500 COMM Z (1)1000 COMM Z (1) 500 CBTZ (1) 250 CBTZ	(1) 500 COMM Z (1) 1000 COMM Z
	(4)1500 Beds	(3)1500 Beds	(3)2000 Beds	(3)2500 Beds	(4)2250 Beds	(2) 1500 Beds

Priority

MAF 1 (RDF)
MAF 11 (RDF)
FLT 1
FLT II
MAF III

Hospitals	Total Beds
3 CBTZ (250)	750
6 CBTZ (500)	3,000
5 COMM Z (500)	2,500
5 COMM Z (1,000)	5,000
19 Total	11,250

FUNDING PROFILE ($M)

	FY-83	FY-84	FY-85	FY-86	FY-87	FY-88
PROCUREMENT FUNDING	74.3	70.0	77.9	87.0	106.8	68.1

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FY-83 HOSPITAL UNIT COST
($ in thousands)

	500 BED COMMZ			250 BED COMBAT ZONE			500 BED COMBAT ZONE			1000 BED COMMZ		
	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost
MEDICAL EQUIPMENT												
Operating Room			$2,751			$1,344			$2,106			$2,983
Wards			1,006			212			422			1,207
Casualty/Receiving			990			124			135			1,188
Central Sterile/Supply			800			93			125			959
X-ray			1,099			446			608			1,319
Pharmacy			724			79			127			869
Dental Clinic			95			112			112			114
Medical Repairs			100			38			38			121
Nursing Services			190			212			422			228
Lab			94			156			182			113
Blood Bank			77			49			49			92
Medical Clinic			226			59			70			271
Eye Clinic			180			74			74			216
All Others			198			221			419			238
Sub-total			$8,530			$3,219			$4,889			$9,918
SHELTERS			7,557			5.654			7,203			5,954
GENERATORS												
100 KW Gen.				74	16	560	74	24	840			
200 KW Gen.	57.5	23	1,323							57.5	6	345
750 KW Gen.										397.8	7	2,785
Sub-total			$1,323			$560			$840			$3,130
TELEPHONE			138			98			146			278
UTILITIES												
Heating, Air Cond.			1,239			959			1,498			1,739
Freshwater Plumbing			812			883			1,377			1,624
Sewage Collection			203			230			359			406
Electricity			3,183			1,765			2,754			3,183
Sub-total			$5,437			$3,837			$5,988			$6,952

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FY 83 HOSPITAL UNIT COSTS
($ in thousands)

	500 BED COMMZ			250 BED COMBAT ZONE			500 BED COMBAT ZONE			1000 BED COMMZ		
	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost
TOOLS and SUPPLIES						$349			$593			$850
VEHICLES												
Bus, BOC, 30 Pass., Amb.	$93.1	7	$652							$93.1	14	$1,303
Truck, Amb.	26.9	4	108							26.9	8	215
Sub-total (Amb.)			$760									$1,518
Truck, forklift(20,000)				$126.0	1	$126	$126.0	1	$126			
Truck, forklift(6,000)				84.0	1	84	84.0	1	84			
Truck, tractor				89.3	2	176	89.3	3	268			
Truck, amb.				28.0	8	224	28.0	12	336			
Truck, tank, water				33.9	2	68	33.9	2	68			
Truck, tank, fuel				41.0	2	82	41.0	2	82			
Truck, wrecker				105.0	1	105	105.0	1	105			
Truck, utility, ¼ton				15.8	3	47	15.8	3	47			
Truck, cargo, 1¼ ton				11.4	1	11	11.4	2	23			
Truck, cargo, 1¼ ton				15.8	1	16	15.8	1	16			
Truck, contact maint.				10.5	1	11	10.5	1	11			
Truck, cargo, dropside				86.6	4	346	86.6	5	433			
Trlr, dual purpose				15.6	2	31	15.6	3	47			
Trlr, amph.				1.9	3	6	1.9	3	6			
Trlr, cargo				2.6	3	8	2.6	4	10			
Trlr, decon.				7.4	1	7	7.4	2	15			
Trlr, cargo 1½ ton				4.1	4	16	4.1	5	21			
Trlr, tank, water				10.0	4	40	10.0	5	50			
Container, refrig.				9.1	3	27	9.1	4	36			
Container, mil van				2.1	8	17	2.1	12	25			
Fire Truck				132.3	1	132	132.3	1	132			
Sub-total (trucks/trailers)						$1,583			$1,941			
MEDICAL			$8,530			$3,219			$4,889			$9,918
SHELTER			7,556			5,654			7,203			5,954
GENERATORS			1,323			560			840			3,130
TELEPHONE			138			98			146			278
UTILITIES			5,437			3,837			5,988			6,952
TOOLS and SUPPLIES						349			593			850
VEHICLES			760			1,583			1,941			1,518
TOTAL			$23,745			$15,300			$21.600			$28,600

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Question. Also provide for the Committee's records, the amended program cost breakdown and other supporting budget documentation for the revised program.

Admiral Cox. The charts provided above in response to your question concerning the 250, 500, and 1000 bed hospitals show the amended program costs.

Question. Last year, the Fleet Hospital Program, for which congress denied funding, was to be oriented to communications zone capability. Why has the Navy apparently backed off this aspect of the program for the short term requirements?

Admiral Cox. The Navy changed its requirement because of the standardization which your committee directed last year.

Question. What does your revised program assume with respect to the availability of hospital ships?

Admiral Cox. Our revised program assumes that the Navy will have 2,000 beds with 24 operating rooms aboard hospital ships by mid 1986. That is the current Navy plan. 2,000 beds in hospital ships are required in addition to 2,500 Fleet Hospital beds to support Rapid Deployment Joint Task Force.

[Clerk's note.—End of questions submitted by Mr. Young.]

DRUG SITUATION

Mr. **Addabbo.** The gentleman from Florida discussed earlier the question of drugs.

As you know, this committee has been very interested in the activities taken by the military, the so-called get-tough policy with respect to drug abuse. Has the situation improved within the services?

Dr. **Beary.** I would have to defer our assessment of it until the November survey, when we are going to do a worldwide study with a scientifically valid statistical sample of 26,000 people that will be representative of the experience; then we can compare that to the 1980 survey and see if we have gotten better or worse, or what exactly the situation is.

The services might have some short-term indicators they can tell you about.

Admiral Cox. On the short-term, it clearly shows that we are beginning to get out in front of this problem. The users are being detected and separated at an increased rate, and the number of people that have to be referred into rehabilitation programs is decreasing. Most of the information I have is anecdotal, but it is all consistent. There is a remarkable drop in the percentage of positive screens, both from the standpoint of getting rid of some bad apples that we had, and, on the other hand, acting as a very big deterrent.

Dr. **Beary.** The Secretary of Navy described in a visit he had to the fleet, that somebody suddenly brought a dog onboard with great acclaim and ceremony, and, unexpectedly, as the hound descended out of the sky, observers reported there were all sorts of white things flying out the porthole on the other side of the ship.

So I think it suggests that human behavior can be modified if you find the right kind of interventions.

DRUG ABUSE TESTING PROGRAM

Mr. **Addabbo**. Along the same line, the agreement with the postal authorities and DOD has been finalized, so that the matter can aid in the elimination of the drugs aboard ships and in camps.

There has been some question relative to the urinalysis program, and the committee had approved a $3 million reprogramming for the procurement of portable urinalysis kits and reagents for fleet units and shore activities. We have received a letter from Secretary Weinberger relative to the testing. There seems to be some question as to the Navy procedure and processing. Admiral, we will give you a copy, if you haven't seen it, for your comments for the record.

[The information follows:]

The policy states in Secretary Weinberger's letter of 30 July 1982, is adhered to in the Navy's Urinalysis Screening Program. Identification of drug abuse among Navy members is a high priority issue that is coupled with the equally important issue of protecting non-drug users from erroneous identificaiton. Navy use of portable urinalysis screening kits, the EMIT-ST by Syva, allows rapid local screening for possible drug abusers. To protect non-drug users from false findings, presumptive positive findings on portable kit screening are confirmed by using the Gas Liquid chromatograph (GLC) process. All urine test samples reported to Unit Commanders as laboratory confirmed positives are confirmed so by the GLC process in accordance with the DOD Policy stated in Secretary Weinberger's letter. In this manner, two different technologies are used—specifically, screening by the portable kit and confirmation by the GLC process.

Mr. **Addabbo**. The gentleman from Washington State has not asked questions. I know he has some questions. So I think we will have to recess for five minutes.

Mr. **Edwards**. Let me throw one in right quick; then I will run upstairs and vote. May I do that?

Mr. **Addabbo**. Yes.

INITIATIVES UNDER CONSIDERATION

Mr. **Edwards**. I will put these sheets in the record. I am just going to read through something real fast: This comes from our recent hearing. Mr. Wood was the witness. We were talking about the question of CHAMPUS patients going to nonmilitary hospitals for treatment, and he said a number of specific initiatives: we are tightening up on issuance of nonavailability statements within the system; we are allocating their staff and improved figures to make sure they are making use of the direct care system.

Other initiatives are in the mill, and so forth, and I commented that kind of sounded bureaucratic to me, the way he laid it out, and I asked him why you can't say: okay, in Washington, there are five military hospitals; all you folks who live here in Washington will go to those five hospitals rather than going somewhere else; and why can't you say that, I asked him.

He said he thought he could say it.

Why don't you, I said.

And then he said, well, there are other problems like perhaps psychiatric care and things that are not covered by these hospitals, and I asked him, while the initiatives under consideration, why don't you simply say except for psychiatric and emergency, or whatever other exceptions are clearly defined, you will go to one of these five hospitals, period. What is wrong with that?

Well, he said—ready for this?—he said, "I wish Dr. Beary was here to answer that. I personally don't find anything wrong with it."

Now, I have got to go vote. Do you want to answer that?

Dr. **Beary**. He is pretty good at predicting the future. I think the concept is a sound one. With the fiscal constraints we are facing we need to find some savings to protect the health benefits for those who only have one health benefit in remote areas. We are exploring the concept in the very short timeframe and the services have been giving me their comments. I will take them into consideration, and then Mr. Carlucci will issue the appropriate marching orders.

SHIFTING A PORTION OF THE CHAMPUS WORKLOAD TO THE DIRECT CARE SYSTEM

Mr. **Addabbo**. While we are waiting for the gentleman from Washington, Dr. Beary, during our reprogramming hearing on CHAMPUS on June 23, the Director of CHAMPUS stated that you were committed to shifting a significant portion of the CHAMPUS workload to the direct care system to reduce government spending.

It was stated that you were taking action to limit the use of CHAMPUS in specific areas and have asked the services to review the situation and respond by July 15, suggesting other alternatives that may be appropriate.

You advised the Secretary on June 25, just two days after our CHAMPUS hearing, that immediate steps must be taken to deal with the increase in utilization, but at the same time not decrease beneficiary satisfaction, since it is an important military retention benefit.

Doctor, since you have asked the services to review the situation and respond by July 15, suggesting other alternatives that may be appropriate, what are the results of that review?

Dr. **Beary**. Probably since they are all sitting here right beside me, it would be best to let them speak for themselves. The Navy's comments we don't have yet.

Bill, maybe you could tell what your thoughts are about the basic concept, who should get the patients, CHAMPUS or the military hospitals?

Admiral **Cox**. The specific recommendations that I had made have been submitted to the CNO for transmittal to the Secretary for transmittal to Dr. Beary, so that what information I have at the moment is that they are still being staffed at that level.

I had certain concerns about the initiatives that had been proposed. The dollars and the staff to handle both the ambulatory and the in-patient work in certain of those five cachement areas are not on board in some of our hospitals, so I had some reservations about that.

There were other initiatives that I have recommended to my boss, the Secretary of the Navy, which he has not approved yet, so could we supply those answers for the record?

[The information follows:]

Four suggestions have been submitted to the Chief of Naval Operations for forwarding to DOD. They are:

Review the feasibility to require concurrent "Appropriateness of stay" reviews for civilian hospitals receiving CHAMPUS reimbursement.

Services should study areas where there is a large CHAMPUS use and submit resource requirements to permit the transfer of resources from CHAMPUS to the direct care system.

Consider the feasibility for transfer of budget control of CHAMPUS to each Service. This would permit greater treatment flexibility and therefore impove cost-effectiveness.

Eliminate civilian ceiling controls on a case-by-case basis when specific cost savings can be documented.

Dr. **Beary**. I might say to allay the services anxieties, I did not have in mind that suddenly September 1 all of these initiatives would go into effect, but I wanted everyone to buy the concept and tell me at what point would we be able to stop buying health benefits in cities like Washington, where we are already operating a big system.

No company offers its patients two health benefits. You pick one and use it. That is the basic concept driving this initiative. Maybe the other two gentlemen could tell me what their views are about the concept and commitment to it as well.

General **Mittemeyer**. Mr. Chairman and gentlemen, I would welcome the legislation that would permit us to size and operate at levels where we could demonstrate an economic case or at least support of a mobilization or contingency need.

We don't have at the present time the professional and technical support base to be as productive as we could be. If I could just for a moment recall during my tenure as commander at Walter Reed, a magnificent medical center with 16 operating rooms, at no time did we operate more than 11 operating rooms.

The bottleneck was clearly we did not have the anesthesiologists or the nurse anesthesists, either military or civilian, and we didn't have the nursing support in the intensive care areas.

This is just one small example of where we could be more productive if we were allowed to be, but basically we would look forward to such legislation.

Mr. **Addabbo**. General?

General **Chesney**. Mr. Chairman, I agree with General Mittemeyer. Our hospitals are right now operating pretty close to capacity for the people we have, for the support we have, for the other things.

Our Air Force hospitals get referral patients, for instance, at Malcolm Grow USAF Medical Center in Washington, at Wilford Hall USAF Medical Center at Lackland in Texas and so forth. We would have to shut down our referrals, for instance, in those areas if we were to try to take all of the CHAMPUS.

There is much of that we cannot do. It would probably create a lot of chaos if this were implemented immediately.

General **Mittemeyer**. I would also like to add, Mr. Chairman, that that capability would also actually expand our mobilization readiness base, and indeed I believe we could do it at a cost saving to the taxpayer.

Dr. **Beary**. I might make another fundamental point. When I came over to the Pentagon, I asked to see what the sizing model was and what the justifications for the assumptions in it were.

There weren't any, so we are building that model, recognizing the reason we have uniformed services is for this mobilization mission. If not, Blue Cross and HMOs could very nicely take care of the other aspects of the duties.

Therefore, this model is being worked up, circulated, and commented on. We will be able to turn wartime workload into manpower requirements which can be turned into facility requirements that you need on M-day That then is what the size of this system should be plus whatever you could add because the cost of providing the care is cheaper in the military hospitals than CHAMPUS. I can't tell you right now what our needs are. We operate 18,000 beds, but that is purely arbitrary and by chance. It is not rationally derived.

Mr. ADDABBO. I would commend you also on your statement before the Senate Military Manpower and Personnel Subcommittee, where you state your aim is to eliminate needless duplication of facilities, equipment and services within the military health care system. I assure you, you have the full support of the committee in that.

UNIFORMED SERVICES FACILITIES—FORMER PHS HOSPITALS

Also, as you know from our hearing on the supplemental and the reprogramming, the committee is very distressed and very interested in questions as to enormous increases in cost and the utilization of so-called Uniformed Services Facilities or the old PHS hospitals and look forward to your reports and recommendations as far as classification, reduction of rates, and how that can be properly controlled within the restraints of existing legislation.

I know the gentleman from Washington is very anxious to get to that. I would yield to him on that. Again, I believe it is a matter that has to be carefully reviewed, and we will be working with you.

At this time I yield to the gentleman from Washington State.

Mr. DICKS. Thank you, Mr. Chairman.

Mr. Chairman, before I ask my questions of the witnesses I think that the subcommittee should be made aware of the background behind the Uniformed Services Facilities designation Congress passed last year for former PHS hospitals which we are transferring to community control.

This designation was made after protracted negotiations with the Administration, Congress and the communities which were working to facilitate the transfer of these hospitals. These negotiations also included OMB, DOD, and HHS.

At the time, it was well-understood that without the USF designation and other conditions which had been and would be negotiated between DOD, HHS and the hospitals, these facilities could not successfully transfer to community control and continue to serve the military and nonmilitary patients they did.

The communities which pursued the transfer of the PHS facilities at the invitation of the Administration did so because they wanted to preserve the quality and availability of the health care provided by these hospitals.

However, they did so on the assumption and the Administration's assurance that the USF designation would be continued. The

Administration, Mr. Stockman, Mr. Schweiker and people at the highest levels supported this designation and assured me personally that they would continue to do so because they were committed to enabling communities to take over these valuable hospitals.

The USF designation was considered as an accommodation to the tens of thousands of entitled beneficiaries who had been receiving care at these institutions, so as to insure that their health care would not be interrupted or impaired.

In exchange for this designation and the assurance by the Administration, DOD and HHS that their financial viability would not be jeopardized later, the hospitals abandoned their requests for sizeable Federal hospital conversion funds.

Until recently, it appeared that when the hospitals and the Administration signed their agreement, both sides were committed to transferring these hospitals successfully.

Unfortunately, because of the Defense Department's recent actions and position on this matter, I can only conclude that it and the Administration have abandoned its commitment to the successful transfer of these facilities and that it is preparing to renege on its agreement.

The DOD has claimed that the hospitals are too costly and that the Department does not have the resources to effectively negotiate with the hospitals for needed military health care. However, despite these allegations, DOD has refused to negotiate in good faith with the facilities or to consult with the Department of Health and Human Services or the hospitals before raising the issue before the subcommittee.

Like many of us learned in law school, Mr. Chairman, one should exhaust his administrative remedies first and seek to resolve matters through negotiation before seeking legislative or judicially imposed solutions.

The DOD has refused to do this and appears to be trying to undo an agreement the Administration made and with which this Congress concurred.

Mr. Chairman, only one side of this issue has been presented to the subcommittee—the DOD side. No one has attempted to check with the hospitals or the Department of HHS on this matter or to verify the allegations or the numbers which DOD has presented to this subcommittee.

Because of this apparent end run by DOD on this very important issue, I believe that the subcommittee has an obligation to obtain all the facts from all the interested parties before it makes any decisions on this matter.

I also believe that the subcommittee should try to convince those who have been hesitant about negotiating in good faith to negotiate in such a manner so that we can assure the best quality health care for military beneficiaries at the best price.

In my view, negotiations between DOD, HHS and the hospitals are a better alternative to action by this subcommittee at this time.

It would appear that the Department of Defense has been concerned about the cost of the USF designation of the converting PHS hospitals for several months. Since one of those hospitals is in my state, though not in my district, and the Department knows that I have a great interest in seeing that these facilities successfully transfer to community control, why hasn't the Department contacted me, Senator Jackson or Senator Gorton personally about the problems they were having? Is that too much to ask?

Mr. **Addabbo**. That was the question.

Dr. **Beary**. That sounds pretty bad.

Mr. **Dicks**. These hospitals are very important facilities, and one of the reasons they were transferred to community control was to save the Federal Government substantial costs. These agreements I mentioned were all reached last year by the Administration with the members of the affected states delegations.

Dr. **Beary**. DOD was not involved in them, contrary to your information. DOD was not involved in any negotiations prior to the Jackson amendment. Speaking to the cost, at your hospital in Seattle the rates per day have gone up 20 percent since January, 520 dollars to 600 dollars for the in-patient and professional services aspect, which is 25 percent higher than the average of the other former PHS facilities, and $100 more than the hospital that is on Staten Island.

So, we don't have all the cost data in yet, but there do appear to be some glitches and disconnects that we will need to look at very carefully to be sure that we are doing the right thing with this.

Now, our view of it was more that it was a relief bill.

Mr. **Dicks**. Now, I don't think those numbers reflect the true situation, and wasn't there an amendment that Mr. Latta added last year requiring the USF designation?

Dr. **Beary**. Yes, for three years, and that is the way we looked at it, a relief bill to help the PHS into the transition, into when they could transfer control to their communities because our main mission is readiness.

Mr. **Dicks**. That is the policy that is set by the Congress. We have a three-year time frame. Why is DOD coming in now and undercutting the clear intention of the Congress?

Dr. **Beary**. I am not aware that we are. We obey the law.

Mr. **Dicks**. That is a new and refreshing point of view. Some of us who have just been involved in the C-5 action plan, and the heavyhanded lobbying by the Department of Defense, we are glad to hear that there is new policy over there.

INPATIENT/OUTPATIENT RATES AT UNIFORMED SERVICES FACILITIES

I would like to have you break out in the record those costs that you just outlined.

Dr. **Beary**. I will be glad to do that, Mr. Dicks.

Mr. **Dicks**. And for all the hospitals involved.

[The information follows:]

The Department of Defense is being billed by the following facilites at the following rates:

Facility	Inpatient rate per day	Outpatient rate per visit	Comments
Baltimore	$326	$78	Exclusions to inpatient rate.
Boston	$498	$75	Exclusions to inpatient rate.
Nassau Bay[1]	$377 plus professional services.	Usual and customary charges plus professional services.	Exclusions to inpatient rate.
Seattle:			
Through 31 May 82	$607	$92	Exclusions to inpatient rate.

Facility	Inpatient rate per day	Outpatient rate per visit	Comments
After 31 May 82	$507 plus professional services.	$77 plus professional services...	
Staten Island	$498	$72	Exclusions to inpatient rate.
Cleveland		Medical = fee for service. Dental = $77.	
Portland		$74	

[1] Outpatient rate also applies to Houston, Galveston, and Port Arthur.

Mr. DICKS. For years this Administration and others have tried to shut these hospitals down. Last year Congress and the Administration agreed to try to help these hospitals financially through a transition period so that the federal government would not have to continue to support these health care facilities.

At the time, we realized that the conversion of these hospitals to community control would take a few years. What upsets me now is the Defense Department's opposition to this agreement which took very arduous negotiations and considerable effort to achieve.

We understood that the Department of Health and Human Services had checked with DOD, and that Mr. Stockman, who happens to run the OMB and was intimately involved in these negotiations, cleared this agreement with DOD. This was implied in all of the agreements, and I understand that OMB speaks for the Administration on policy matters, and that this was agreed to.

It was negotiated, and now all of a sudden DOD is coming in and trying to——

Dr. BEARY. It may have been at a level of detail that was not filtered down to us.

Mr. DICKS. I am glad. This is a filtering process right here. This is kind of trickling down.

I am sure that you are aware that the PHS hospitals signed agreements with this Administration last year which would insure a successful transfer of the hospitals to community control and that an essential part of these agreements was that the hospitals receive a USF designation for a period of at least three years.

I understand that Mr. Stockman at OMB contacted the Defense Department and others before he approved these agreements and everyone involved knew that the hospitals could not successfully transfer to community control without this designation.

As you know, the administration at the highest levels approved this designation.

Would you explain to me why you and the Department are trying to cause the failure of these hospitals by attempting to renege on the deal struck last year?

Dr. BEARY. We are not.

Mr. DICKS. I'm pleased to hear that. But if DOD is so concerned about the net impact of the USF designation for former PHS hospitals, why has the Department declined to participate in the medical services contract negotiation process which will save the Department and the American taxpayers significant sums?

Dr. BEARY. I will supply that for the record after I get the quantitative data.

[The information follows:]

The Department of Defense had neither the resources nor the expertise to enter into medical service contract negotiations. It was felt that the interests of the federal government could be represented by the Department of Health and Human Services.

Mr. Dicks. Has the DOD discussed these concerns with the Department of Health and Human Services?

Dr. Beary. Many times.

Mr. Dicks. Has the Department of Health and Human Services explained to the Department of Defense the agreements that they reached last year with the members of the Congressional delegation from these various states?

Dr. Beary. We got them two weeks ago from DHHS.

Mr. Dicks. Has DOD taken the time to discuss this matter with the hospital directly, or has it just come to this subcommittee for relief?

Dr. Beary. My staff had a large meeting the last of June with the PHS folks to go over this matter.

Mr. Dicks. Who did you meet with?

Dr. Beary. Representatives from all the hospitals.

Mr. Dicks. Was there any attempt to negotiate with the hospitals?

Dr. Beary. Yes, there were many agreements made that day based on those discussions.

Mr. Dicks. Is the Department willing to try to negotiate, in light of the history here that obviously the distinguished doctor was unaware of? Are you willing to continue to negotiate and try to resolve these matters without seeking legislative relief?

Dr. Beary. We are trying to do that at the present time and accomplish it before the first of October.

Mr. Dicks. I have some other questions on this issue I would like to submit for the record. However, I'd like to say that—there has been a failure of communication within the Administration on this matter—not that that is unheard of in this or any other administration. I'd also like to point out that the decision to provide for local transfer of these hospitals was made after careful consideration by the Congress and with the taxpayer's and PHS hospital, patient's interests in mind. To complete that transfer I believe that all parties should try to negotiate. DOD should sit down with the hospitals so that both sides have a clearer understanding of the problems and should work together to resolve your disputes. DOD is not going to impress me by coming to this committee and seeking relief when it has not entered into forthright negotiations. I would hope that you could do that, because I think that negotiations are a much better way of resolving this matter.

These hospitals are terribly important. Thousands and thousands of people, very poor people, rely on this hospital in the Puget Sound area, and it would be a great blow if the commitments that were made last year by the Federal Government were not honored. The hospitals are an example of the new federalism in a way, of transferring things that were federal responsibilities back to the state and local levels. Now if the agency which is receiving the greatest increase in spending of all agencies in government starts reneging on its commitments, I think, you are going to have a very serious public relations problem on your hands. You are also going to have deal with Senator Jackson and myself, who are both going to be very unhappy. There also are many others in other State's congressional delegations who feel that commitments were made last year, and that what has happened is an attempt to undercut those commitments. We have three years to get this job done, and I think in three years we can get it done. But we would like you to try and work with us on this matter rather than taking other unwise actions at this time.

Mr. Addabbo. Thank you.

There happens to be my city of New York, and I would also agree with the gentleman from Washington, that hard negotiations should be had because it has already cost us $20 million through reprograming actions and another $8 million in the supplemental. Tremendous dollars are being spent which could possibly be used in other areas if proper negotiations are had.

proper negotiations are had.

Dr. Beary, I want to thank you for your prepared statement and your forthright testimony before this committee, and thank all of you gentlemen.

Mr. Dicks. Would the Chairman yield just briefly?

I am advised that the Department has been dragging its feet on giving us its numbers on this matter. Can we get these numbers by the end of the week? Is that possible?

Mr. Addabbo. If not sooner.

Dr. Beary. We have never had a request before.

Mr. Dicks. You do now.

Dr. Beary. You are looking at somebody else's feet.

Mr. Addabbo. As soon as you can get them, submit them.

Dr. Beary, what disturbs me as chairman of this committee, and I tell you this as chairman, and I know it has the full support of the committee, if there are any repercussions through your testimony or the testimony of the two doctors that you mentioned earlier, I wish this committee to be advised.

Dr. Beary. I appreciate that.

Mr. Addabbo. We have additional questions we would like you to answer for the record.

[**Clerk's note.**—Questions submitted by Mr. Addabbo and the answers thereto follows:]

PHYSICIAN ASSIGNMENTS/TOURS

Question. The Air Force Inspector General recently recommended in a report that Air Force physicians not be assigned for lengthy tours at the same hospital. "There is a natural tendency (among those assigned too long to the same hospital) to equate a threat to the institution as a threat to one's person." The report stated that personnel should spend no more than 8 or 10 years at the same hospital in one tour and no more than 12 years there all together.

The former Air Force Surgeon General was at Wilford Hall for 20 years, during which he was commander for 7 years, and only spent a total of four years in a non-training capacity at any other facility. What is the current practice of each Service with regard to lengthy, non-military medicine assignments for doctors? In other words, what is the practice of the Services in terms of, for example, assignment of Navy doctors on ships and Air Force doctor assignment to a clinic in Incirlik, Turkey, for instance?

Army Answer. The Army policy for assignment of physicians is to provide a variety of jobs to ensure professional development in both clinical and military unique medicine. It is important to recognize that the clinical aspect of medicine is the major role of the Army Medical Department in both the hospital and field setting. On the average, Army physicians are assigned at one location for only four to five years. Moves are made in keeping with the professional needs and desires of the physician and the operational requirements of the Army Medical Department.

Navy Answer. Following internship, the physician usually spends one to two years in an operational tour on board ship or with the Marines. They are then reassigned to a tour of specialty training for three to five years. Following training, they are assigned as staff in their specialty in a hospital in CONUS or overseas for an average of three to five years. Physicians stationed in graduate training hospitals are assigned for five to seven years and then rotated to another teaching hospital or to other medium sized hospitals or to another operational tour, for example—a surgeon assigned to an aircraft carrier. Shipboard primary care medical officers are assigned one year tours. DOD and Naval Military Personnel Command regulate the length of overseas tours. All others serving with Construction Battalions, or Marine Corps units in CONUS are assigned for one or two years. Physicians are assigned to flight surgery or to undersea medicine for two years. When assigned as senior medical officers in aircraft carriers, they serve for two years.

Air Force Answer. Physician assignments are determined based on the needs of the Air Force. Separation, retirement, overseas assignments and training affect assignment selection policy. Overseas selections are based on those most eligible for those assignments. By policy, qualified volunteers are selected ahead of non-volunteers for overseas tours.

It is understood that some assignments do not provide the full range of clinical practice opportunities for some specialties. For physicians assigned to these locations, every effort is made to allow them to move to a more clinically satisfying assignment as soon as the tour length is completed, if at an overseas location, or after a minimum of two years if assigned in the U.S. This is, of course, predicated on the individuals desire to move.

In a selected number of specialties, there are a limited number of assignment locations. As an example, some of our specialties are needed only at our medical training facilities and at large overseas hospitals.

Current assignment policy for Incirlik, Turkey, is two years for an accompanied tour, one year for an unaccompanied tour.

SURGEONS GENERAL BACKGROUND

Question. Would each of you Surgeons General briefly state your background and your rotations—the type of assignments each of you have had which directly relates to military medicine as op-

FLEET HOSPITAL PROCUREMENT PLAN
(3 MAF/2 FLEET)

	FY-83	FY-84	FY-85	FY-86	FY-87	FY-88
HOSPITALS	(1) 250 CBTZ	(2) 500 CBTZ	(1) 500 COMM Z	(1) 500 COMM Z	(1) 500 COMM Z	(1) 500 COMM Z
	(1) 250 CBTZ	(1) 500 COMM Z	(1)1000 COMM Z	(1)1000 COMM Z	(1)1000 COMM Z	(1) 1000 COMM Z
	(2) 500 CBTZ		(1) 500 CBTZ	(1)1000 COMM Z	(1) 500 CBTZ	
					(1) 250 CBTZ	
	(4)1500 Beds	(3)1500 Beds	(3)2000 Beds	(3)2500 Beds	(4)2250 Beds	(2) 1500 Beds

Priority

MAF 1 (RDF)
MAF 11 (RDF)
FLT 1
FLT II
MAF III

Hospitals	Total Beds
3 CBTZ (250)	750
6 CBTZ (500)	3,000
5 COMM Z (500)	2,500
5 COMM Z (1,000)	5,000
19 Total	11,250

FUNDING PROFILE ($M)

PROCUREMENT FUNDING	74.3	70.0	77.9	87.0	106.8	68.1

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posed to some general practice at a central hospital, such as Wilford Hall?

General MITTEMEYER. I began my Army career with the 101st Airborne Division, first serving as a clearing platoon commander, then battalion surgeon, and then ultimately as the division surgeon from 1957–59. In 1968, I rejoined the 101st Airborne Division in Vietnam as the Division Surgeon and Commander of the 326th Medical Battalion. On completion of my combat tour, I was assigned to Fort Meade, Maryland where I served as Chief of Urology Service, Chief of the Department of Surgery, and Chief of Professional Services at Kimbrough U.S. Army Community Hospital. In 1970, I attended the U.S. Army War College and from 1971–1977 I served as the Assistant Chief, later Chief, Urology Service, and as Chief of the Department of Surgery at Walter Reed Army Medical Center. During this time, I also served as the Urology Consultant to The Surgeon General.

In 1977, I was assigned to Korea as the Eight U.S. Army Surgeon and Commander of the U.S. Army Medical Command, Korea. Upon my return, I assumed the position of Chief of Medical Corps Affairs and Director of Professional Services within the Office of The Surgeon General. My last assignment prior to becoming The Surgeon General, was as the Commander of the Army's largest medical center, Walter Reed Army Medical Center, Washington, D.C.

Admiral Cox. In 1954, I entered naval service and completed my internship and residency training at Naval Hospital, San Diego with interim and post training staff assignments at San Diego. During this period, I completed Amphibious Warfare Medical Support Training at Field Medical Service School, Marine Corps Base, Camp Pendleton. This was followed by a 2-year overseas assignment at U.S. Naval Hospital, Subic Bay, Republic of the Philippines as Director, Clinical Services and Chief of Medicine.

From 1963–1969, I served as Head, Cardiovascular, Pulmonary and Infectious Diseases Branch; and later as Chief of Medicine and Director of Research at Naval Hospital, Philadelphia. During this period, I completed a course of instruction in Medical Aspects of Nuclear Biological and Chemical Warfare Defense. This assignment was followed by staff duty at the Headquarters Command. In 1972, I attended the Advanced Management Program at the Leonard Davis Institute of the University of Pennsylvania. In 1973, I assumed command of the Naval Health Sciences Education and Training Command, NNMC Bethesda. Subsequently, in 1977 I was reassigned to staff duty at Headquarters Command as Assistant Chief, Bureau of Medicine and Surgery, Navy Department (Human Resources and Professional Operations). In 1978, I assumed command of Naval Regional Medical Center, San Diego, California and in 1980 was appointed to my current position as Navy Surgeon General.

General CHESNEY. I am Major General (Dr.) Murphy A. Chesney and am presently assigned as the Deputy Surgeon General, Headquarters U.S. Air Force, Washington, D.C. I attended the University of Tennessee in Knoxville in an accelerated premedical program and graduated with a bachelor of science degree. I earned my doctor of medicine degree in June 1950 from the University of Tennessee's College of Medicine in Memphis.

In June 1951, I completed my internship at the Scott and White Hospital, Temple, Texas, and entered private practice as a surgeon and general practitioner at the Edgar Renegar Clinic in Levelland, Texas.

In April 1955, I entered the U.S. Air Force and attended the basic orientation course at Gunter Air Force Base, Alabama, and later the primary course in aviation medicine at Randolph Air Force Base, Texas. In July 1955, I was assigned to the dispensary at Portland International Airport, first as flight surgeon and then as commander. I continued to serve as commander when the dispensary became a hospital.

From July 1957 to June 1960, I attended the University of Tennessee in Memphis where I completed an Air Force-sponsored residency in internal medicine. For the next two years I was assigned as Chief of Hospital Services and Chief of the Department of Internal Medicine at Homestead Air Force Base, Florida.

In May 1962, I transferred to the dispensary at Ben Guerir Air Base, Morocco, as Commander. I moved to the 401st Tactical Hospital, Torrejon Air Base, Spain, in June 1963 and became Deputy Commander and senior internist.

In June 1966, I assumed command of the 852nd Medical Group at Castle Air Force Base, California. I became Director of Professional Services in the Office of the Command Surgeon, Pacific Air Forces, in August 1969 and deputy command surgeon in June 1972.

In April 1973, I transferred to Headquarters Tactical Air Command, Langley Air Force Base, Virginia, as Command Surgeon. I moved to Brooks Air Force Base, Texas, in August 1978 where I was Commander of the Air Force Medical Service Center. I served as Director of Medical Plans and Resources, Office of the Surgeon General, Headquarters U.S. Air Force, from January 1980 until assuming my present position in April 1980.

DRUG AND ALCOHOL ABUSE

Question. Since the recent "get tough" policy with respect to drug abuse, what is the situation now?

Dr. **Beary.** The second biennial survey of drug and alcohol abuse among military members of the Department of Defense will be taken between September and November 1982. This survey will measure the impact of all policy and program initiatives taken in the past two years.

Question. The Committee recently approved a reprogramming of $3 million for the Navy for the procurement of portable urinalysis kits and reagents for fleet units and shore activities. What are the results of these tests—have you been able to identify and rehabilitate and restore to full duty those who have potential for further service, and you have you separated those who are unfit for further service?

Admiral Cox. Use of Drug Testing Kits by fleet activities appears to have favorable impact on identifying drug abusers. Separations due to drug involvement have increased. Data on the impact of Testing Kit use in regard to identification—rehabilitation—return to duty is favorable but not conclusive.

Question. I have expressed strong support for the proposed agreement between the U.S. Postal Service and the Department of Defense with respect to regulations which would help in reducing the flow of illicit drugs through the military postal system. We had a hearing on this matter on April 1 of this year. Could you bring us up to date with respect to this matter?

Dr. **Beary.** The rulemaking policy has been completed. A final agreement is expected shortly, and we will provide the Committee with a copy as soon as one is available. This issue did not clear the Federal Register until July 16, 1982.

DRUG ABUSE TESTING PROGRAMS

Question. Recently a urinalysis sweep test of a SAC .unit revealed several deficiencies in program implementation. A sergeant whose urine was reported as positive for drugs alleged improper procedures during specimen collection. A subsequent inquiry confirmed his allegations. Specifically, not all personnel were directly observed when providing the specimen which could lead to substitution of the specimen. After collection, those specimens were left unattend in insecure offices where they could have been tampered with, altered, or substituted. At the hospital, the samples were placed in a locked refrigerator; however, the key was available to all laboratory personnel. These deficiencies cast doubt on the validity of the test results and the integrity of the program.

What procedures are being followed by each Service with respect to the programs?

Army Answer. We have had no complaints like the one suggested by the question. Urine specimens are always collected under direct observation, but are then handled in two ways. Under the first method urine specimens are collected, stored, transported, and processed in the drug testing laboratories under the rigid Department of Defense chain-of-custody procedures. Urine specimens collected under the second method, while not under a formal chain-of-custody, are carefully controlled. We plan to implement chain-of-custody procedures on all specimens in January 1983. As a built-in-safeguard, all personnel with positive urine results are evaluated by a physician to determine authorized or non-authorized use of the suspected drug prior to any action being taken.

The three Army operated laboratories have been independently certified for drug testing by the Armed Forces Institute of Pathology (AFIP) and are included in the Department of Defense Drug Testing Laboratory Quality Control Program; this program operates independent of the internal laboratory quality controls.

Navy Answer. Navy procedures require individuals be directly observed when specimens are obtained. The chain-of-custody of specimens and documentation requirements include custody/identification be maintained by chain of signatures of persons handling the specimen until they are shipped to the laboratory. Specimen custody/identification within the Navy Laboratory is maintained by locally assigned individual specimen numbers. Information linking urine specimens with individuals is maintained only by laboratory officers under lock. Sample containers are identified only by laboratory numbering.

Strict security requirements are enforced. These include locked spaces for specimen storage and limited access to testing areas.

Air Force Answer. The procedures followed at the SAC unit for a drug sweep were not correct. Because of this incident, a SAC command-wide review of procedures was done. All charges against the sergeant involved in the incident were dropped. Corrective action has been taken to insure proper procedures under AFR 160-23 are followed. That is, the specimen must be collected under direct observation, the container correctly labeled and properly secured until it is shipped for analysis.

READINESS FOR WARTIME MEDICAL REQUIREMENTS

Question. The three Surgeons General testified that their services are improving their readiness for wartime medical requirements, particularly in recruiting new doctors. What other steps are being taken other than recruiting new doctors for improving readiness for wartime medical requirements?

Army Answer. The following additional Medical Readiness Initiatives are being pursued by the Army at this time:

1. A new hospital contingency site in the UK was formally approved for transfer to US control on 6 July 1982. Facility will be utilized for the establishment of two general hospital equipment sets, in peacetime, in a "turn-key" configuration for immediate use in wartime. Other sites in the United Kingdom (UK) are occupied by British troops, however, it may be possible to store general hospital equipment sets on site or nearby.

2. Seventh Medical Command (MEDCOM) currently developing a concept for training of General Hospital Units. This consists of establishing the latest equipment sets for two units in Europe, staffing with permanent Caretaker staff and a TDY training Cadre. Both Reserve and Active units would rotate through every 10–14 days during the training period.

3. Host Nation Support (HNS) agreement formally concluded between Germany (GE) and the US on 15 April 1982. GE will provide five GE Reserve ambulance battalions (19 companies) in support of US force in wartime. Four battalions will be activated in fiscal year 1984.

4. Wartime facilities offered by Belgium for use by US hospitals in wartime collectively can accommodate necessary beds, thereby satisfying all curently projected wartime stationing requirements in Belgium (BE).

5. Belgium has offered a fully equipped, modern, operating medium-sized hospital for US wartime use. Although survey team was not allowed inside, BE officials indicate hospital can rapidly expand to twice its level of peacetime beds. Formal Joint Logistics Plan was expected to be signed by the end of fiscal year 1982.

6. Wartime facilities, offered by the Netherlands, have the combined potential for accommodating all required beds and other medical support units programmed for the Netherlands (NL) during wartime. Milestones for finalizing support were established during the US/NL Joint Planning Group meeting held in July 1982.

7. An Army Combat Zone hospital is scheduled for activation in Germany in January 1983 for support of the V Corps. The two Armored cavalry Regiments (ACR) in Germany will have medical companies activated in fiscal year 1983.

8. Army programmed for the prepositioning of sufficient medical units in Europe to maintain the required theater evacuation policy thru———as part of a total Army prepositioning program for Europe.

9. The Medical Supply, Optical, and Maintenance (MEDSOMS) for V and VII Corps are currently co-located with the US Army Medical Materiel Center, Europe (USAMMCE). Upon elimination of maintenance and equipment set rebuild backlog, units will be forward stationed in their respective Corps. This action is planned for the fiscal year 1984–1986 timeframe dependent upon each Corps providing adequate stationing.

10. The 91B10 basic medical specialist course for enlisted personnel will be lengthened from 6 to 10 weeks beginning in October 1982. The additional four weeks is designed to enable graduates to manage combate trauma and shock for up to six hours following injury.

11. A Combat Casualty Care Course (C^4) was established at Camp Bullis, Texas in April 1980 to prepare health care professionals for direct support of combat and disaster operations. The Tri-Services oriented course has trained 857 officers to date.

12. The Army CAPSTONE program, established in August 1980, aligns Active and Reserve Component units in an organizational association in order for units to enter into the planning process of their designated wartime command. Secondary purpose is to provide a vehicle for more realistic training of the force. For the first time ever, Reserve Component Medical Unit personnel are conducting "Terrain Orientation Walks" in Europe.

13. The largest medical exercise (Wounded Warrior) since World War II was conducted by Active and Reserve Component Army Medical units in June 1981 at Camp Roberts, California.

14. Medical Capability (MEDCAP) 83, a large Reserve Component exercise, is tentatively scheduled for June/July of 1983 at Fort Pickett, Virginia. Exercise will be hosted by the 8th Medical Brigade with participants from active units in the Continential US (CONUS) and Europe and CONUS Reserve Component units.

15. During Return of Forces to Germany (REFORGER) 81, the 441st Air Ambulance detachment deployed to Germany and provided medical evacuation support during the exercise. This was the first Reserve Component air ambulance unit to actually deploy and fly in the European theater.

16. Between 1 January and 31 August 1981, 164 Dental Corps officers, with at least two years remaining for duty in US Army Europe (USAREUR) had received training in emergency war surgery. Currently 80 percent of the Dental Corps (DC) officers below the rank of Colonel have received at least 22 hours of instruction in medical and surgical assistance in mass casualty situations.

17. A teleconference, utilizing the Worldwide Military Command and Control System (WWMCCS), was established approximately a year ago between Office of the Surgeon General (OTSG), 7th

MEDCOM and Health Services Command (HSC) to enhance coordination and planning on a daily basis.

18. Army medical readiness posture will be enhanced upon implementaton of the provision of the Health Resources Sharing Act (PL 97-174). In addition to facilititing the peacetime sharing of health facilities between the Veterans Administration and the Department of Defense, this law provides for the use of VA hospitals by active duty patients during mobilization. Action has been initiated between the VA and DOD principals to implement the provisions of the law.

19. The Army Medical Department has made considerable progress in its portion of the Civilian—Military Contingency Hospital System (CMCHS) since this time last year. We hope to add some 35,000 CMCHS beds from the Portland, Atlanta, and New York City areas with the help of the VA.

NAVY ANSWER. While intensifying our efforts to recruit physicians, I am also trying to improve our medical readiness in the following ways.

I am enhancing the career attractiveness of critical surgical specialists by stabilizing their tours of duty, providing increased training opportunites in the surgical specialties and supporting incentive pays for these critical specialists to increase their numbers.

All Navy interns and residents are provided combat casualty care training which provides certification in Advanced Trauma Life Support. These initiatives provide a common basis upon which further training to support contingency requirements may be based.

Navy participation in the Combat Casualty Care Course at San Antonio, Texas has been escalated and will involve 20 courses in fiscal year 1983, training 800 Navy Medical Department personnel.

Surgical and surgical support teams from regional medical centers routinely deploy in support of operating forces at a constant rate balanced with need for these specialists in our hospitals. In addition, teams are on alert on both coasts of the United States—ready for an emergency deployment.

Key personnel for staffing the Army-loaned Rapidly Deployable Medical Facility undergo field training this summer.

We are also designing a unit augmentation system for support of operating forces upon mobilization. As currently envisioned, specific units will be identified at all of our medical facilities and coded in the manpower documents. Each unit will be assigned a specific, pre-identified mobilization role. This system will focus training efforts and facilitate communication between supported and supporting activities.

Lastly, and most importantly, I have strongly supported the development and progress of the procurement of hospital ships, the upgrading of the Amphibious Assault Ship and Landing Platform Helicopter ships to enhance their medical readiness, and the development of the new fleet hospital concept.

AIR FORCE ANSWER. The Air Force has taken several steps to improve its readiness for wartime medical requirements.

First, using physician requirements as a foundation for determining support/ancillary personnel requirements, we have programmed and gained additional manpower spaces for the supporting specialties. Many of these new spaces were effective in fiscal year 1982.

Secondly, we are purchasing and prepositioning in the theaters of operations, where possible, wartime medical assemblages which will be available for use early in a conflict.

In addition, the Air Force has initiated several new training programs such as Medical Red Flag, Battlefield Medicine, Battlefield Nursing, Medical Readiness Training, and others and has actively participated in the Tri-Service Combat Casualty Care Course. All of these efforts provide our personnel the highest level of training to insure their proficiency in treating combat casualties.

WARTIME DRAFT OF HEALTH PROFESSIONALS

Question. The Assistant Secretary for Health Affairs stated last year that the Office of the Secretary of Defense has been working with the Selective Service System to develop a legislative proposal providing for peacetime pre-registration, induction by medical specialty and reduction of predeployment training requirements. It was stated that representatives of the Selective Service System were drafting a legislative proposal which would address the concerns of that agency as well as the Department of Defense, that developments of both the proposal and a comprehensive plan for similar implementation would be completed by February 19, 1982.

Can you tell us what the proposal and plan for its implementation is?

Dr. **Beary.** A draft of the proposal has been developed through the cooperatives efforts of the Department of Defense, Selective Service, Health and Human Services and the Federal Emergency Management Agency. It is designed as an amendment to the Military Selective Service Act to be enacted in peacetime. The proposal applies to all health care occupations, not just health care professionals, and includes women as well as men. It waives the 12-week mandatory predeployment training requirement and tasks the Secretary of Defense to prescribe training to meet Service and survivability needs. Another feature of the proposal provides the President with authority to create a National Advisory Board on Health Personnel.

The proposal is currently being coordinated within the Department of Defense and with certain health organizations. We hope to have the coordination process completed soon. Selective Service would like to submit the proposal for OMB review in October 1982 for subsequent submission to the Congress in early 1983.

RECORD RISE IN RECRUITING

Question. Statistics for the first half of fiscal year 1982 show the services as having their best recruiting year since the all-volunteer force began approximately a decade ago. How well have the services done during the current fiscal year with respect to recruiting physicians?

Army Answer. The Army goal for volunteer physicians in fiscal year 1982 is 145. The goal includes accessions for Graduate Medical Education and fully trained physicians in selected critical specialties.

As of 1 August 1982, 136 volunteer physicians entered active duty. This constitutes 100 of the Graduate Medical Education accessions and approximately 94 of the fully trained volunteers. The Army expects to achieve its total goal of 145.

Navy Answer. The Navy has had a significant increase in physician recruiting compared with fiscal year 1981. As of the end of July, ten months into the fiscal year, we have attained 90 percent of our recruiting goal of 160 physicians, we have accepted 118 applicants, and 26 selections are pending.

Air Force Answer. During fisal year 1982, Air Force physician recruiting has concentrated on eleven critical specialty areas which are general surgery, colon/rectal surgery, neurological surgery, orthopedic surgery, urology, obstetrics/gynecology, ophthalmology, otorhinolaryngology, rheumatology, hematology/oncology, and neonatology. As of 30 June 1982, the Air Force recruited 58 physicians of which 38 were in these critical specialties. Projections for the end of fiscal year 1982 indicate that a total of 79 physicians will have been recruited which is 68 percent of the initial goal for the year of 116.

MANPOWER IMPROVEMENTS

Question. For fiscal year 1983, the Army justification states that there is a decrease in civilian contract positions, direct hire positions, and contract medical services as a result of an increase in the number of active duty positions. What is the total number of new acquisitions of physicians?

Answer. The Army is projecting 535 physician accessions for fiscal year 1983. The following are the sources for these physicians:

AFHPSP	319
USUHS	44
ROTC	32
Volunteers	140
Total	535

MILITARY PHYSICIANS—PROJECTED INCREASE

Question. For each service, show the projected increase in military physicians for fiscal year 1983. How does this compare with the authorized and assigned levels?

Army Answer. The Army is projecting an increase of 149 physicians in fiscal year 1983 for a total of 5054 physicians. 5054 is the authorized level for fiscal year 1983 and the Army projects to achieve that level. This is however still 402 below the Army's minimum peacetime objective for physicians of 5456.

Navy Answer. The authorized and assigned number of physicians are as follows:

	Fiscal year—		
	1981	1982	1983
Authorized	3,624	3,693	3,803
Actual estimated	3,568	3,693	3,803

AIR FORCE ANSWER.

Air Force physicians	Fiscal year—		Projected increase
	1982	1983	
Authorized	3,692	3,742	+50
Assigned	3,692	3,742	+50

Assigned physicians are projected to be at 100 percent of authorized; however, the Air Force Medical Service is still experiencing shortages in critical specialties.

FUNDING REQUIREMENT FOR CIVILIAN PHYSICIANS

Question. What is the total funding being requested in fiscal year 1983 for civilian contract physicians, direct hire physicians, and contract medical services, and how does this compare with the 1982 appropriations?

ARMY ANSWER.

[Dollars in millions]

	Fiscal year—	
	1982	1983
Civilian contract physicians	$3.6	$3.9
Contract medical services	$2.8	$3.0
Direct hire physicians (authorized)	495	475

NAVY ANSWER. The total funding requested in fiscal year 1983 as compared to fiscal year 1982 is as follows:

	No. of civilian physicians (both years)	Fiscal year—	
		1982	1983
Direct hire positions:			
O&M, N	100	$5,684,000	$5,742,000
RDT&E	7	343,500	347,000
Total	107	6,027,500	6,089,000
Supplementary care: O&M, N (provides specialized services to retain CHAMPUS patients in direct care system)		$4,640,000	$4,923,600

AIR FORCE ANSWER. The Air Force does not employ any civilian contract physicians under the authority of Title 10, Chapter 873, Section 9022, U.S.C. Funds requested for direct hire physicians for fiscal year 1983 total $4.4 million which is the same as the total for fiscal year 1982. Funds requested for contract physician services in fiscal year 1983 total $8.9 million fiscal year 1982 the total is $3.1 million. The increase from fiscal year 1982 to fiscal year 1983 ($5.8 million) is required to fund 49 additional manyears in the critical specialty shortfall areas of orthopedics and general surgery.

SS UNITED STATES AS A HOSPITAL SHIP—NAVY

Question. In a letter to the Chairman of the House Armed Services Committee, under date of June 13, 1981, over a year ago, the Deputy Secretary of Defense, the Honorable Frank C. Carlucci, stated in his first paragraph of that letter that "acquisition of a hospital ship capability of at least 2,000 beds and 24 operating rooms is essential for the medical support of the Rapid Deployment Joint Task Force (RDJTF). Conversion of the SS *United States* to a hospital ship would meet that objective in a cost-effective and timely manner.

Mr. Carlucci further states in his letter "over the past four years, the Navy has exhaustively explored ways of meeting the hospital ship requirements—from new construction to conversion of cargo ships, passenger liners, moth balled aircraft carriers, or LNG tankers, and reactivation of remaining hospital ships, the USS *Sanctuary*. Despite the uncertainty which is inevitable in predicting costs for novel and unique conversions, a clear picture has emerged: conversion of the SS *United States* provides the best capability, in a most timely fashion, at the lowest cost per bed or operating room, of any of the options considered." Mr. Surgeon General, another year in addition to the 4 mentioned by Mr. Carlucci has now passed and we still have not met our hospital ship requirements. What assurance can you give the Committee that we will proceed with this program?

Admiral Cox. The Navy has completed review of technical proposals submitted by the maritime industry and has concluded contract design award with two companies, Apex Marine Corporation and Prudential Lines, Incorporated, each of which is offering a 2 ship conversion package. You can be assured that the Navy fully intends and is dedicated to procurement of the hospital ship capability in the most cost effective manner and in the shortest, practicable time.

HOSPITAL SHIPS/SCHEDULE—NAVY

Question. Prior to awarding the contract for detailed design and construction, the Navy usually completes the following design phases: Feasibility design, Preliminary design, and Contract design. In March, the Navy witnesses stated that none of these design phases were completed. What is the present status of the design work for the Hospital Ship?

Captain Kerr. The initial solicitation (Request for Proposals) was for the preliminary design phase to be submitted as Technical Proposals by the Maritime industry on February 1, 1982. The contract design phase was implemented on July 6, 1982 with two companies. Detailed design and conversion is scheduled for award in July 1983.

Question. Initially, you advised the Committee that there might have been as many as three firms in the final competition. Why were only two firms selected?

Captain Kerr. As set forth in the Request for proposals, "Phase I (contract design) consists of the selection of up to three contractors to develop contract specifications and drawings." Based on technical proposals submitted by the industry and their review by the Navy, it was determined that only two companies provided options which could feasibly meet the hospital ship requirements as related to technical, costs, schedule and management perimeters set for the program.

Question. Since both firms will be converting existing hulls to a hospital ship, explain the differences in the conversion methods.

Will they vary in cost, and if so, how much?

Captain Kerr. As the two companies participating in the contract design phase remain in a competitive status at this time, information concerning conversion methods and comparative costs must be considered of a proprietary nature.

Question. What is that total design contract phase cost? Break out by firm.

Captain Kerr. The total design contract, awarded as a firm fixed price contract, will cost a total of $4 million—$2 million per company.

Question. The milestone dates for accomplishing the Hospital Ship Program apparently have slipped several months. As I understand it, the contract design awards were to have been made around May 14, 1982, however, the actual award date was July 6, 1982, I believe. The Navy now estimates that the final conversion contract will not be awarded until August, 1983. What efforts will be taken to ensure that the August 1983 date will be met?

Admiral Cox. The Navy will be working very closely with two companies during the contract design phase in an effort to identify and resolve any problems which could possibly delay award of the conversion contract in the July/August 1983 time frame.

Question. What were the reasons for the delay in awarding the contract design contract?

Admiral Cox. Upon completion of technical proposal review in April 1982, it was determined that additional information was required. Consequently, it was necessary to solicit Best and Finals. Preparation of this data by the involved companies and subsequent review by the Navy resulted in delaying the contract design award until July 6, 1982.

Question. When will the contract design phase be completed and validated?

Admiral Cox. The contract design phase, including the Navy's evaluation of each company's submission, is planned for completion in July 1983.

Question. When do you expect to receive best and final pricing proposals?

Admiral Cox. Definitive price proposals are to be submitted to the Navy as part of the contract design submisison in March 1983. These costs will naturally play a major role in the decision process leading to conversion contract award.

HOSPITAL SHIPS/COSTS—NAVY

Question. Also in March, we asked if your cost estimates were budget quality "Class C" estimates. The Navy responded that "information is sufficient to determine that the cost estimate is budget quality". How could you have justified the estimate as budget quality when you had 5 organizations submitting bids with different concepts in addition to having very little design work completed?

Captain **Kerr**. The assessment that the estimate was of budget quality was based on information provided in the technical proposals under review at that time. This is still considered a valid assessment until such a time as information to the contrary is provided during the contract design phase.

Question. What do you estimate the cost of medical equipment to be for each ship, and is it a budget quality estimate?

Admiral Cox. The cost of medical equipment per ship (including major and minor equipment, initial procurement of consumables and spare parts) is estimated at $20 million (fiscal year 1983 dollars). An intensive review is currently ongoing to validate the quality of the estimate.

Question. Are you still saying that the total cost of your proposed hospital ship program will not exceed $560 million?

Admiral Cox. By working with the companies participating in the contract design, we will be constantly looking for ways to reduce costs to remain with the $560 million.

Question. Mr. Edwards and I wrote a letter to Secretary Lehman in June recommending that he consider reactivating the U.S.S. *Sanctuary* to provide an interim hospital ship capability. What is the status of our recommendation?

Admiral Cox. The June 23, 1982 letter (jointly signed by Chairman Addabbo and Mr. Edwards) recommendaing reactivation of the *Sanctuary* is currently being staffed within the Navy Secretariat.

Question. If we were in a situation that the British found themselves in in the Falklands, what would you do to care for our wounded?

Admiral Cox. There are two primary mechanisms which we would utilize if thrust into a Falklands Island scenario. The first would be to staff the Marine Corps medical battalions. The second would be to augment certain Amphibious ships (LHA and LPHs) with medical personnel. This would permit ships to be used as primary Casualty and Receiving Treatment Ships. Because of the large volume of casualties and the suboptimal physical and environmental constraints, these options allow only for the provision of initial resuscitative care. As soon as the Rapidly Deployable Medical Facility is prepositioned, and training is completed we would use this facility to provide additional medical support.

Question. The Circular of Requirements for the hospital ship program states that the ship will be maintained at a CONUS port in a 5-day reduced operating status. What is the total annual cost for this?

Admiral Cox. The total annual cost for maintaining the hospital ships in a 5-day reduced operating status commencing in fiscal year 1986 is currently under review and has not been determined. Costs will include such areas as manpower for continuous maintenance of each ship and its associated hospital complex, rotation of short shelf life medical supplies, normal logistics requirements and sea trials twice each year.

Question. You have testified that you are planning to expand the medical capability of the LHA's and LPH's. What is the total cost of this effort?

Admiral Cox. The estimated cost of increasing the surgical capability on the LHA's and LPH's through location of Mobile Medical Augmentation Readiness Team surgical and resupply blocks on these ships is $1.2 million.

Question. How does that compare with your estimated cost to reactivate the U.S.S. *Sanctuary*?

Admiral Cox. The cost is significantly less than the $41 million estimated for an austere reactivation and conversion of the *Sanctuary* to hospital ship configuration. It should be noted that the $41 million U.S.S. *Sanctuary* estimate did not include the procurement of major medical equipment and initial outfitting of medical consumables and medical equipment spare parts, the cost of which is estimated to be approximately $8 million.

NAVY HOSPITAL BED REQUIREMENTS

Question. We have been advised that the Navy has changed its method of calculating hospital bed requirements. When did this change take place?

Admiral Cox. The decision to establish an "existence rule" or force level approach to the calculation of hospital bed requirements was made on 22 June 1982. It resulted from a joint Chief of Naval Operations/Commandant of the Marine Corps review of the fleet hospital program requirements.

Question. What are the new requirements for land based hospitals as compared to the old requirements?

Admiral Cox. The Navy's programming goals for fleet hospitals are 19 hospitals and 11,250 beds of strategically relocatable assets.

Old requirements included estimates of from 21 hospitals/13,250 beds up to 33 hospitals/21,500 beds.

Question. How does the current method of calculating bed requirements differ from the prior method?

Admiral Cox. Both methods are based on a common set of logistic planning factors including evacuation policy, casualty rates, and average strengths—forces at risk.

The old requirements reflect either the Navy's response to general criteria in the Defense Guidance or a gross aggregate of the CINC's separate theatre assessments based on contingency scenarios using planned forces at risk and average to high casualty rates worst case.

The current method ties bed requirements to actual existing deployable force levels, both Fleet and Fleet Marine Force. An average rather than worst case casualty rate is used in establishing the Marine Amphibious Force (MAF)/Fleet "existence rules" of required support.

Question. What is the basis for the adjustment in bed requirement for land based hospitals? What impact does this adjustment have on the Navy's present or planned budget request for land based hospitals?

Admiral Cox. The Navy's revised program is based upon support for existing deployable force levels in the Fleet and the Fleet Marine Forces, using a middle range casualty rate sustained among the forces at risk. As I stated previously, the impact was a reduction of the Navy land based fleet hospital program to 11,250 beds. The difference is a net reduction of approximately $98 million in program procurement costs.

Question. The hospital ship requires 2,000 beds. Is that correct?

Admiral Cox. Yes, preferably in two or more hulls.

Question. In reducing the number of required land based hospital beds, did you just lower this requirement to justify a 2,000 bed hospital ship requirement? If not, how did you arrive at the 2,000 bed hospital requirement?

Admiral Cox. The hospital ship requirement has always been a part of the total bed requirement, and was not the basis for the bed reduction for land based hospitals.

Two thousand beds in hospital ships are required in addition to fleet hospital beds to support the Rapid Deployment Joint Task Force, which must be deployed with fully operational, functioning afloat hospitals.

During an amphibious operation, the early establishment of even organic Fleet Marine Force medical battalions ashore is not always assured. For example, during the battle for Iwo Jima, nearly all hospitalization was provided by units afloat up to D-Day-plus 9. This was during the assault phase when the combined naval forces were taking over 1,000 casualties a day.

Three Hospital Ships and six auxiliary evacuation ships were available at Iwo Jima. These numbers were doubled for the Okinawa battle just two months later.

Question. Were bed requirements for hospital ships recalculated? If not why, since both field hospitals and hospital ships will provide essentially the same level of care?

Admiral Cox. Hospital Ships (AH) and Communication Zone Fleet Hospitals (FH) do provide the same level of care. However, they have always been doctrinally expressed as mutually exclusive facilities in the Navy continuum of care based on the dominant strategic and tactical mobility inherent in the AH. The display below depicts the mobility/capability relationship.

This dominance is especially pronounced during the amphibious operation. The Hospital ship is the only definitive care facility ready to receive patients in the amphibious objective area (AOA) on D-Day.

It remains the only definitive care facility in the AOA until such time as the beachhead is expanded and/or the size of the landing force either supports or warrants the establishment of a Fleet Hospital ashore.

The need for a mix of both Fleet Hospitals and Hospital ships remains valid as long as the seizure of advanced bases remains part of the Naval Service mission.

NAVY MEDICAL READINESS

Question. The Navy's plans for improving medical readiness include requesting funds for hospital ships, and the prepositioning certain types of medical facilities—Rapidly Deployable Medical Facilities (RDMF) and field hospitals—aboard ships. Additionally, the LPH's, LHA's ships can provide hospital care. Explain to the Committee the various types of care provided by the Rapid Deployable Medical facilities, the field hospitals, and the hospital ships.

A term we often see is the providing of "definitive care" for patients. Precisely what is definitive care?

Admiral Cox. Definitive care is the highest level of necessary medical care. It includes medical and surgical speciality treatment. Definitive Care restores vital functions and prevents further clinical deterioration. It is the treatment necessary to enable the patient to start recovery from an illness or injury.

Question. Will both the field hospitals and the hospital ships provide definitive care? If so, what is the justification for a hospital ship in view of the fact that definitive care field hospital facilities can be erected in 2-5 days and will be prepositioned near the intended area of operation?

Admiral Cox. Hospital ships are mobile. They typically steam as close to the combat zone as possible to treat casualties during the assault and consolidation phase of an amphibious operation. They may then be extracted for use in other operations. Our planning objective is to provide hospital facilities ashore as soon as possible to permit the hospital ship to be used elsewhere. Also, hospital ships are basically flow-through facilities. They have no holding beds for patient recuperation. This recuperation is provided ashore.

Question. In view of the fact that both a hospital ship and a field hospital provide definitive care, what are the advantages of a hospital ship over a field hospital in terms of medical care capability?

Admiral Cox. During the initial assault phase of a landing, we cannot place a hospital ashore. The Hospital ship is vital during this phase. In addition the mobility of the ship allows rapid augmentation of hospital assets as was the care during the TET offensive in Vietnam.

Question. Have the airlift and sealift requirements necessary to transport wounded from the combat zone to hospital ships been identified and quantified?

Admiral Cox. Yes. The sealift and airlift requirements necessary to transport wounded from the combat zone have been identified and quantified. The gross requirements are computed based upon the Defense Guidance scenario. Operational commanders also calculate current requirements to transport wounded from the combat zone.

RESERVE FORCES MEDICAL PLANNING

Question. Are senior medical representatives of the Reserve Components represented on the medical staffs of the Services? If so, please describe the authority of the office and the responsibilities of the present incumbents.

Army Answer. The Army Surgeon General has two senior Reserve force advisors—the Deputy Surgeon General for Readiness and Mobilization and the Army National Guard Special Assistant to The Surgeon General. These are both Major General level positions.

The Deputy Surgeon General for Readiness and Mobilization acts as representative of and advisor to The Surgeon General on matters concerning Reserve Component (RC) AMEDD personnel. His job includes development of broad programs and policies affecting RC AMEDD personnel. He proposes RC policies and programs to increase readiness of RC personnel and units and he monitors the status and availability of AMEDD personnel in the Individual Ready Reserve.

The Army National Guard Special Assistant is the advisor to and assists The Surgeon General in those special aspects of AMEDD activity which particularly apply to the Army National Guard System.

Navy Answer. Reserve Medical Flag officers are assigned as Special Advisors to the Surgeon General in additional duty assignments.

They advise in key areas of drug and alcohol abuse, recruiting, training, research, field medicine and aerospace medicine. Each one has particular expertise in one or more of these fields. Each flag officer serves a period of active duty each year, devoting two weeks or more to a particular area. His responsibilities vary with the individual tasking.

Air Force Answer. Senior medical representatives of the Reserve Components are represented on the medical staffs of the Air Force. Five Air Force Reserve general officer positions are authorized in the Office of the Air Force Surgeon General. Their titles are Mobilization Assistant to: Surgeon General; Deputy Surgeon General; Director of Medical Plans and Resources; Assistant Surgeon General for Dental Services; Chief, Air Force Nurse Corps. An Air National Guard physician is assigned to a general officer position as Air National Guard assistant to the Surgeon General. They provide liaison between the Air Force Medical Service senior leadership from the Officer of the Surgeon General, the Air Force Reserve and Air National Guard.

Question. Are there entities within your offices to provide opportunities for Reserve Forces Medical personnel to propose policies affecting peacetime readiness and wartime effectiveness of medical individual and unit programs? If so, what are the entities called, who are the members, what are the charters, how often does it meet, and could you cite specific accomplishments of the entities within the last six months?

Army Answer. In 1975, the Advisory Council to The Surgeon General on Army Reserve Components was established. The purpose of this council is to study and make recommendations to The Surgeon General concerning professional matters relating to the Army Medical Reserve Components (RC).

Standing membership of this committee includes the commanders of 12 RC general officer commands including five medical brigades, three hospital centers and three 1,000 bed U.S. Army hospitals; and the six mobilization designees to OTSG.

The council meets at least biannually for three days.

In the latest advisory council meeting, several task forces were established to examine current RC issues and report the findings of their analysis in October 1982. The issues being studied by these task forces are:

Military educational requirements for RC medical commanders.

Requirements for additional personnel in RC medical TOE units to provide command and control elements.

Need for additional RC medical groups and brigades.

Upgrade of equipment of RC medical units.

Retention of nurses in the Reserves.

In addition to the task forces reflected above, members of the advisory council are participating in an ongoing study of the effects of the Defense Officer Personnel Management System on recruiting and retention of medical personnel.

Navy Answer. Yes—Reserve Force Medical personnel do propose policies affecting peacetime readiness and wartime effectiveness of medical individual and unit programs.

Reserve Flag officers meet as a group when required and individually with the Reserve Division on special assignments. During the past year they have met as a group as follows:

November 1981—met with the Surgeon General at USUHS for a one-day planning session for Reserve Forces support of medical readiness; December 1981—met in Memphis, Tennessee for a one-day Contingency Planning Conference and briefing by contingency planning staff members; March 1982—three-day conference at BUMED in conjunction with Readiness Command Staff Medical Officer Seminar; October 1982—tentative date for conference. The Reserve Components Medical Council, chartered by ASD(HA), with Selected Reserve Medical Flag representation, meets quarterly. In July 1982, this council chartered the first Health Services Liaison Detachment at Georgetown University.

Air Force Answer. Reserve Forces Medical personnel have a number of opportunities to propose policies affecting peacetime readiness and wartime effectiveness of medical individual and unit programs. The Air Reserve Forces Medical Advisory Council (ARFMAC) is a body which normally meets twice a year to review policy items and advise the Surgeon General, USAF, on medical matters directly affecting the Air Reserve Forces. Membership includes three members and an alternate each from the Air Force Reserve and Air National Guard; ARFMAC participants are medical service officers who are not on extended active duty. The Reserve Components Medical Council, with membership consisting of a medical general officer from each of the Reserve Components, advises the Assistant Secretary of Defense (Health Affairs) on Reserve Component health matters. The Council, which normally meets five times a year, has developed initiatives designed to reduce the shortage of physicians and other health professionals in the Reserve Components. These initiatives include an accelerated appointment procedure, a program to increase flexible training opportunities for physicians and the Physician Reservist in Medical Universities and Schools (PRIMUS) program (initially called the Reserve Physician Liaison Officer program).

Question. Are Reserve forces medical representatives an integral part of the decision-making process in the office of the Surgeons

General? If so, please describe the scope, frequency, and quality of the involvement.

Army Answer. The Deputy Surgeon General for Readiness and Mobilization, a USAR General officer, serves as the focal point for Reserve Component (RC) input to The Surgeon General in his decision making process. To function in this role, he is in constant contact with the 12 general officer Reserve Component commanders and has regularly scheduled meetings with medical leaders in the offices of the Chief, Army Reserves and the National Guard Bureau. The Deputy is in continual contact with The Surgeon General both telephonically and during frequent visits to OTSG each month. During his visits he participates in the OTSG staff meeting and then meets with the Deputy Surgeon General, The Surgeon General and principal staff members as necessary.

Navy Answer. Reserve Forces are an integral part of the Reserve Division of BUMED and do participate in a regular and meaningful way to furnish valuable input to the Surgeon General, through the Assistant Chief for Professional Development.

The Reserve Flag Officers meet frequently on an individual basis and on three occasions during the past year have met as a group to advise the Surgeon General, through the Reserve Division, on all matters of concern to the Medical Department, including medical readiness.

Additionally, one senior Reserve medical officer and a senior Chief Hospital Corpsman also edited a Hospital Corps training manual.

Air Force Answer. Reserve Forces medical general officers assigned to the Office of the Surgeon General are consulted on a wide variety of topics. Additionally, the Surgeon General meets periodically (a minimum of 4 times a year) formally with the Air Force Reserve and Air National Guard medical general officers to exchange ideas.

Question. Could you cite specific decisions within the past year?

Army Answer. During the last year the Deputy Surgeon General for Readiness and Mobilization participated in the following specific decisions of The Surgeon General:

Inclusion of RC physicians in the Combat Casualty Care Course.

Organization of special seminars and courses for RC personnel dealing with military emergency medicine.

Upgrade and improvement of military education for RC officers and NCOs.

Establishment of initiatives to provide national training sites for RC hospital units.

Improvement in both quality and quantity of CBR instruction of RC AMEDD personnel.

Improvement of mobilization planning at OTSG by strengthening the Mobilization Planning Office at OTSG with additional Individual Mobilization Augmentees.

Participation of three major RC medical units in three major medical exercises.

Wounded Warrior, 6th Army, 175th Medical brigade.

Gold Caduceus, 1st Army, 39th Medical Brigade.

Dusty Bull, 5th Army, 807th Medical Brigade.

Establishment of pre-assignment plan for Individual Mobilization Augmentees and RC enlisted AMEDD personnel to specific civilian hospitals in event of mobilization to administer the civilian/military contingency hospital system.

Navy Answer. While the Reserve Forces medical representatives are involved in the decision-making process, there were no decisions made which were based solely on their input.

Air Force Answer. The most recent meeting was held at Bolling AFB, DC, on 3 May 1982. Their input has been very helpful in our increased Air Reserve Forces manning to meet critical wartime requirements and the greater reliance on the Air Reserve Forces for overseas deployment.

Question. On January 1, 1982, the Services were asked to accelerate the appointment of Health Service Officers in the Reserve forces to within 30 days—a policy designed to increase the recruitment and retention of officers. Office Secretary of Defense (OSD) guidelines included pre-screening applicants to determine that they meet minimum physical and professional standards. Are you pre-screening applicants medically or are you requiring a full medical examination?

Army Answer. We do both, depending on the circumstances. Beginning on 1 January 1982, we implemented the program for accelerated appointments in the Reserves. Since that time we have made progress with the accelerated appointment program. Of 932 applications for appointment received since 1 January, 737 or 79 percent have been considered to be part of the accelerated program. For all these applicants we come very close to maintaining a 30 days cycle. There are certain restrictions to be included, for example, physicians must be US citizens and graduates of American medical schools.

Navy Answer. Yes, we are pre-screening applicants, waiving full medical examination requirements when it is felt this would delay processing time.

Air Force Answer. We require a full medical examination.

Question. How long is the delay when a complete physical examination is rendered in lieu of pre-screening?

Army Answer. Our policy is that we accept pre-screening of applicants when such a screen does not identify possible medical problems which should be examined further. We try, of course, even with the accelerated program to get a complete physical with the application whenever possible. In any case, a complete physical must be accomplished within 60 days from the time the individual takes the oath of office.

Since we accept pre-screening, if no likely medical problems are forseen, the question of delay associated with a complete physical is case specific and is related to the particular medical problems and associated documentation which is at issue, and no general rule can be given.

Navy Answer. When complete physical is required, a delay of less then 30 days is directed.

Air Force Answer. There is no appreciated delay since the physical examination is generally completed in conjunction with other processing procedures required for appointment.

Question. In April of this year, the Office of Secretary of Defense asked the Services to provide physicians, especially surgeons, with more flexible training opportunities in the Reserve forces. What additional opportunities have you created to recruit and retain critical medical specialists such as general surgeons, orthopedic surgeons, and anesthesiologists?

Army Answer. The Army and National Guard Regulations which provide policy guidance for the Reserve Components currently allow considerable flexibility in training participation. Understanding and utilizing this inherent flexibility in providing training contributes to the overall mission of meeting Army mobilization requirements. Flexible training attracts and retains personnel and prepares members mobilization.

Constraints are imposed by existing regulations to assure that effective and efficient training is conducted in support of the over-all mission. These constraints are intended to prevent abuses and have not hindered well conceived and properly executed program. Commanders have a wide range of options for meeting mission requirements and desires of individual members.

Participation in the USAR is permitted in varying degrees from Category A (48 drills, 14 days AT) to categories which require no participation (Category H, may perform voluntarily for retirement points only). While there are no members in Category B (24 drills and 14 days AT) various excusal policies allow certain officers to be classified in Category A but participate at a lesser rate. Also, there are opportunities for even greater participation than Category A.

Unit commanders may excuse officers assigned to the MC, DC, VC, ANC, AMSC and students of health professions for up to 25 percent of Multiple Unit Training Assembly (MUTA) requirements. Officers in these categories may have another 25 percent of MUTA requirements excused for compelling reasons.

A unit member may be attached to another unit when it is impractical to train with his unit of assignment. Attachments are allowed to other components and services.

A full range of military training courses are offered by a variety of codes such as: (1) Active duty/resident at Army Service Schools; (2) Area Schools; (3) USAR Schools; (4) Correspondence/nonresident; and (5) Combinations of above.

Annual training is normally for a 14-day period (prescribed by law). There are flexibility provisions which provide for: (1) Individual training; (2) Unit modular training; (3) Split/fragmented AT (two or more periods not to exceed 17 days); (4) Excusal; (5) Deferral; and (6) Activities in lieu of (i.e., professional meetings). Additionally, there is a continuing health education goal of one experience per year, subject to the availability of funds.

Navy Answer. The Individual Mobilization Augmentee (IMA) program was created to provided a limited number of billets that can be used for medical officers in critical specialities who cannot maintain a regular Catgory "A" schedule. Category "A" unit is a requirement for units in Program 9, which supports Selected Reserve Marine Corps units and in support of the Fleet Hospital Program.

The IMA is a viable program to support the CONUS requirements of Naval Regional Medical Centers, Naval Hospitals, and

Branch Clinics for surgical and other critical specialties where reservists will be expected to backfill after the active duty personnel have been mobilized to forward stations.

IMS billets are planned to increase from 80 Medical Corps billets in fiscal year 1983 to 120 billets in fiscal year 1984.

Air Force Answer. The Air Force Reserve plans to provide additional opportunities for critical specialty physicians through the Physician Reservist in Medical Universities and Schools (PRIMUS) program (initially called the Reserve Physician Liaison Officer program). We plan to increase flexible training opportunities in the future by continuing to provide a flexible means of satisfying annual training tour and inactive duty requirements. For example, in the Air Force Reserve Individual Mobilization Augmentee program the 12-day inactive duty requirement can be accomplished by training six days at the time, twice a year; three days, four times a year; two days, six times a year; half a day, twice a month. Some physicians perform inactive duty at an active duty medical facility near their home and active duty at large Air Force Medical Centers or Regional Hospitals. Additionally, physicians and other health service professionals attend periodic professional meetings in their area of specialization for pay and/or retirement point credits.

Question. What are your plans to increase flexible training opportunities in the future?

Army Answer. There is sufficient training flexibility that most participants can meet readiness goals and accommodate individual desires for participation.

Navy Answer. There are plans to add 11 MSC and 11 enlisted billets in 1984 to allow a medical program recruiting team for each REDCOM.

There are 40 new openings for Reserve Medical officers in the Combat Casualty Care Course in fiscal year 1983.

There are openings for Reserve Medical officers at SMRCC—Strategic Medical Rediness and Contingency Course.

Many opportunities for approved courses of Continuing Medical Education become available in fiscal year 1982.

Eighty to one hundred Reserve Medical officers served on the Reserve Medical Officer Program, Temporary Active duty (RESMOP TEMAC), thereby gaining valuable mobilization training

Air Force Answer. The response was provided in the previous reply.

PERSONNEL READINESS OF NAVY/MARINE CORPS PERSONNEL

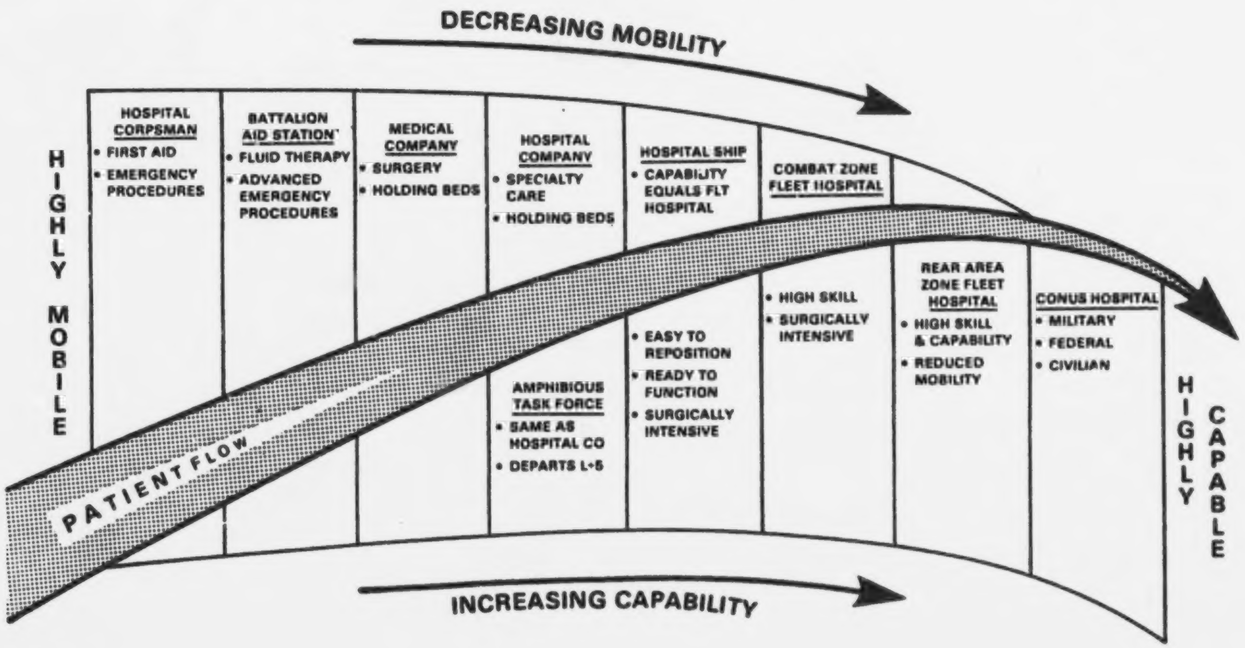
Question. Admiral Cox, you and Dr. Beary testified to our need for deployable medical facilities. I want to be certain that our medical personnel are ready to staff the facilities we have now, and that adequate numbers of personnel will be available and trained to staff the facilities you propose to buy.

How many physicians serve with or are assigned to the Marine Corps in peacetime?

Admiral Cox. 217 physicians are assigned to the Marine Corps in peacetime.

Question. How many in wartime?

CONTINUUM OF CARE


DECREASING MOBILITY
HIGHLY MOBILE
HOSPITAL CORPSMAN
• FIRST AID
• EMERGENCY PROCEDURES
BATTALION AID STATION
• FLUID THERAPY
• ADVANCED EMERGENCY PROCEDURES
MEDICAL COMPANY
• SURGERY
• HOLDING BEDS
HOSPITAL COMPANY
• SPECIALTY CARE
• HOLDING BEDS
AMPHIBIOUS TASK FORCE
• SAME AS HOSPITAL CO
• DEPARTS L+5
HOSPITAL SHIP
• CAPABILITY EQUALS FLT HOSPITAL
• EASY TO REPOSITION
• READY TO FUNCTION
• SURGICALLY INTENSIVE
COMBAT ZONE FLEET HOSPITAL
• HIGH SKILL
• SURGICALLY INTENSIVE
REAR AREA ZONE FLEET HOSPITAL
• HIGH SKILL & CAPABILITY
• REDUCED MOBILITY
CONUS HOSPITAL
• MILITARY
• FEDERAL
• CIVILIAN
PATIENT FLOW
HIGHLY CAPABLE
INCREASING CAPABILITY

SOURCE: FMFM 4-5

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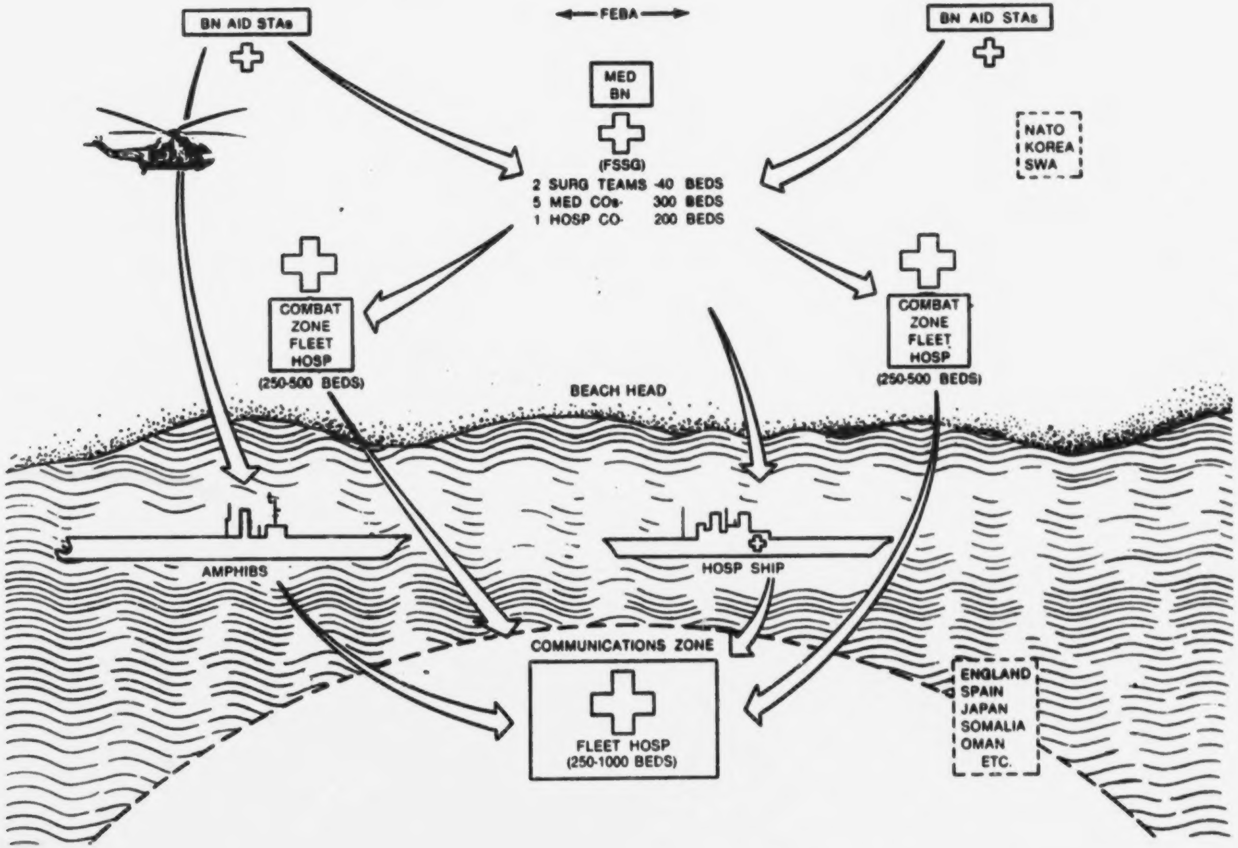
EMPLOYMENT OF NAVY FLEET HOSPITALS


BN AID STAs
FEBA
BN AID STAs
MED BN
(FSSG)
2 SURG TEAMS -40 BEDS
5 MED COs- 300 BEDS
1 HOSP CO- 200 BEDS
NATO
KOREA
SWA
COMBAT ZONE FLEET HOSP
(250-500 BEDS)
COMBAT ZONE FLEET HOSP
(250-500 BEDS)
BEACH HEAD
AMPHIBS
HOSP SHIP
COMMUNICATIONS ZONE
FLEET HOSP
(250-1000 BEDS)
ENGLAND
SPAIN
JAPAN
SOMALIA
OMAN
ETC.

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Admiral Cox. 487 active duty physicians are assigned to the Marine Corps in wartime for the I, II, and III Marine Amphibious Forces. Including the 4th Division Wing Team of 147 selected reserves, the total is 634.

QUESTION. Are the additional physicians identified, trained, and equipped for their wartime mission?

Admiral Cox. Physicians required to augment the Marine Corps and other deployable medical systems are currently not specifically pre-designated with the exception of the medical personnel assigned to the Rapidly Deployable Medical Facility. BUMED maintains the Marine Corps medical personnel requirements and would provide the personnel from the CONUS mobilization base. Training for these personnel include the training provided in the Combat Casualty Care Course, and Navy will train 800 Medical Department personnel in that course in fiscal year 1983. Additional training for medical personnel occurs in the routine scheduled deployments of the Mobile Medical Augmentation Readiness Teams, who have been called to respond to such pacetime contingencies as the fire aboard the USS *Nimitz* last year, the unannounced readiness fleet exercises such as KERNEL Egress, and other peacetime emergencies. Equipment and supplies for the personnel assigned to the Marine Corps is the responsibility of the Commandant of the Marine Corps, and they are bringing their medical equipment up to allowance.

CORPSMEN AND NURSES

QUESTION. How many Corpsmen and nurses serve with the Marine Corps in peacetime, and in wartime? And are the additional corpsmen identified, trained, and equipped for their wartime mission?

Admiral Cox. Two nurses and 3,252 corpsmen are assigned to the Marine Corps in peacetime; 100 nurses and 7,535 corpsmen are assigned to the Marines during wartime including reservists.

Corpsmen assigned to augment the Marine Crops are not pre-identified at present. These personnel will be provided from the CONUS mobilization base by the Bureau of Medicine and Surgery. Many of the corpsmen in our hospitals have previously served with the Marines. In addition, combat training for enlisted personnel has been significantly increased in the past two years. Maximum numbers of male Hospital Corps "A" School graduates are assigned to Field Medical Service School enroute to their first duty stations. This has resulted in an increase of approximately 2,000 personnel in our trained augmentation base.

QUESTION. How many surgeons and corpsmen are on active duty in the Navy and the Naval Reserve? And how many of each would be required to staff all deployed wartime billets if the total deployable hospital system is fully funded?

Admiral Cox. Currently, the Navy has 490 surgeons on active duty and 205 in the Selected Reserves.

The deployment requirement is 932, leaving a shortfall of 237 plus our CONUS requirement. The Navy currently must rely on the retired, other reserves, and the draft to meet the deficiency.

The Navy is intensifying its efforts to increase the numbers of surgical specialties in both the active and reserve forces.

Hospital Corpsmen on active duty total 22,948 including those in training with an additional 4,329 in the Selected Reserves. The deployment requirement is 28,579, if we include our overseas fixed hospitals which will deplete our stateside assets. The retired, other reserves, and the draft must currently be used to staff our stateside hospitals.

STAFFING CRITERIA

QUESTION. Admiral, how do you determine your wartime requirements for personnel, and how do you establish staffing criteria for deployable hospitals?

Admiral Cox. The Defense Guidance and Navy/Marine Corps planning data are used as a basis for determining wartime requirements for personnel. Based upon the scenario, projected forces at risk, and casualty rates, basic requirements for operating rooms and beds are determined consistent with the methodology used in the Navy MEDCON II model and its more recently known version, the JOPS III Medical Planning Module. Medical manpower requirements are then those resulting from the sum of: medical augmentation requirements to bring operating units of the Fleet and Fleet Marine Force to wartime manning levels; manpower requirements for deployable medical systems needed to satisfy the deployment requirements for operating rooms and beds; manpower requirements to staff our overseas medical centers; and manpower requirements to staff CONUS activities to support local mobilizing activities, to provide combat casualty care, and to train accessions and to provide medical replacement personnel.

Medical staffing criteria and the three military departments' planning factors are largely based upon the professional judgement of combat seasoned veterans from the various medical staff corps, and in light of the following: unit mission; unit placement—combat zone or communication zone; facility characteristics—operating rooms, beds, equipment, supplies; and theater evacuation policy.

QUESTION. For the record, will each Service provide its staffing criteria, by each medical specialty, for each of the classes of hospitals budgeted in fiscal year 1983, and show how these criteria were derived?

ARMY ANSWER. Staffing for deployable Army hospitals is based on Tables of Organization and Equipment (TOE) published for each type hospital. These tables are reviewed and updated on a cyclic basis employing the latest information on staffing and materiel needs. Personnel requirements are derived using the Army's Manpower Authorization Criteria (MACRIT) system. Medical MACRIT are being developed on a functional basis (e.g. Operating Rooms) to quantify all personnel requirements in field medical units. Following HQDA approval MACRIT are published in regulations as guides to all organizational developers. MACRIT are based on time factors related to primary function, non-function related tasks (military duties), personal needs, and unit operations (movement, etc). The factors are based on wartime experience in casualty care and validated by computer simulation and analysis.

Under development at the Army's Academy of Health Sciences (the responsible agent for Medical TOE) is a model which identifies the critical parameters in a given combat situation. Based on inputs of 309 patient classes by probability of occurrence, treatment/recovery times, etc, it will provide as one of its outputs the number of required treaters (professional/ancillary) by type for each hospital organization. Once validated by test this mode will be utilized to refine the Army's Manpower Authorization Criteria.

NAVY ANSWER. The medical staffing for the 250-bed and 500-bed combat zone hospital appears in the table below:

Specialty	250-bed CBZ 4 operating tables	500-bed- CBZ 6 operating tables
Commanding Officer	1	1
Executive Officer	1	1
Primary Care	15	28
Internal Medicine	3	6
Family Practice	5	7
Psychiatry	1	1
Anesthesiology	4	6
Radiology	2	2
Pathology	1	1
General Surgery	4	8
Obstetrics/Gynecology	3	5
Orthopedics	2	2
Otolaryngology	2	2
Total	44	70

The principal determinant of staffing in the anticipated intensity of patient flow. Four operating tables can handle 60 wounded in action (WIA) per 24 hour day (48 major cases and 12 minor cases). Six operating tables can handle 90 WIA per day (72 major cases and 18 minor cases). 2.5 surgeons (general, orthopedic, otolaryngology, and obstetric/gynecology) are required per operating table over a 24 hour period. The specialty of obstetrics/gynecology is included in the mix because of its experience with surgery inside the abdominal cavity.

For the other required services, the following criteria apply:

Required services

(a) Executive officer.—Internist or Family Practice and also acts as senior ward medical officer and Chief of Clinical Services.

(b) Casualty receiving.—Requires Family Practice or Primary Care Medical Officer (PCMO) for making determination on casualty routing, fluid replacement and triage duties.

(c) OR prep and hold.—Requires a physician with OR prep knowledge (OB/GYN, Anesthesiologist, Family Practice) to insure that all patients are properly prepared for the OR.

(d) Intensive care units and wards.—Require PCMO's to care for patients after surgery.

(e) Outpatient.—Require Internists, PCMO's and Family Practice to care for disease non-battle injuries. Psychiatrist required for evaluation of psychiatric casualties.

AIR FORCE ANSWER. Staffing criteria, by medical specialty, for the third/fourth echelon 500-bed contingency hospital are as follows: surgeons, 31; other physicians, 19; nurses, 113; other officers, 48; enlisted, 538. For the second/third echelon 250-bed RDJTF hospital the staffing criteria are: surgeons, 27; other physicians, 17; nurses, 86; other officers, 50; enlisted, 418. Revised manpower requirements for the upgrade of the air transportable hospital from 24 beds to 48 beds are not yet available.

These staffing criteria were developed using the Tri-Service wartime manpower computer models and data base at the Academy of Health Sciences, Fort Sam Houston, Texas, and were then refined based upon input of the various specialty consultants to the Air Force Surgeon General.

READINESS TRAINING—NAVY

QUESTION. Admiral Cox, the Committee understands that training for the Navy's Medical Readiness Teams was cancelled in fiscal year 1982? Is this true? If so, why was training cancelled this fiscal year?

Admiral Cox. Training funds for the Navy's Medical Readiness Teams, the Mobile Medical Augumentation Readiness Teams were, in fact, increased during fiscal year 1982 by $200,000 for a total of $425,000. This action allowed us to meet an expanded training schedule which coincided with actual deployment with fleet and other operating units. Because of those additional deployments, we were not able to institute a proposed but unbudgeted short, three-day familiarization course for some teams, but I feel that the actual deployment training was of greater effectiveness.

QUESTION. What was the total Navy Medical Department BUMED-sponsored training budget for fiscal year 1982?

Admiral Cox. The total Navy Medical Department BUMED-sponsored training budget for this fiscal year was $24,561,000 which included $13,498,000 for tuition for the Armed Forces Health Professions Scholarship Program. The $200,000 increase noted previously is not included in these totals.

QUESTION. How much was allocated to readiness training?

Admiral Cox. $1,410,500 was allocated to readiness training in fiscal year 1982.

QUESTION. What other training programs were curtailed in fiscal year 1982?

Admiral Cox. Beyond the substitution of actual deployment type training for the short familiarization described previously, no budgeted training plans were curtailed in fiscal year 1982.

PROFESSIONAL SERVICES EYED FOR EXCHANGES—NAVY

QUESTION. It is stated that there is a Navy plan to offer professional services at base exchanges. The proposal would allow private physicians, dentists and lawyers to set up shop at base exchanges. This proposal is currently in the exploration stage and would be implemented in about a year at the earliest. It is also stated that there is some hesitation to endorse the plan by the Navy's medical branch, the Bureau of Medicine, and some civilian medical associations. The professional services under consideration would be private businesses, operated as concessions, under contract to the exchanges. They would not involve Navy physicians, dentists, or lawyers.

Why would there be some hesitation to endorse the plan by the Navy's Bureau of Medicine?

Admiral Cox. The only area proposed is that of optometrist/ophthalmologist. This preliminary proposal provides insufficient information to evaluate Naval Medical Department's roles in general professional supervisory responsibilities, tort liability and other legal implications, and professional quality assurance/oversight. Accordingly, approval at this point is not appropriate.

The Bureau of Medicine and Surgery has not received a request from the Commander, Navy Resale and Services Support Office to review a formal proposal to offer other professional service by private physicians and dentists in Navy exchanges. Information regarding this matter has reached this Bureau only through the Navy Times and other unofficial channels.

QUESTION. In a recent CBS newscast, it was reported that more than 100 hospitals around the country have joined the move to the shopping centers, offering their own drive-in medical care. It is a new type of medical service, quick, easy, convenient, treating injuries you would normally take to a hospital emergency room. The report stated that approximately 500 centers have sprung up. They are often owned by physicians, but are managed by businessmen to keep costs down, and fees can be anywhere from 40 to 50 percent below those of hospitals.

(*a*) Are you aware of this?

(*b*) Is DoD seriously looking at this as a form of medical service for military personnel?

(*c*) Are CHAMPUS payments being made to these drive-in facilities?

Dr. BEARY. I am aware of this trend in the civilian sector and we are looking at this form of medical service. CHAMPUS payments are made to physicians who provide care in these locations just as they are made to any other physician.

BETHESDA NAVAL MEDICAL CENTER

QUESTION. In an article appearing in the April 5th issue of Defense Week, it was stated that the Bethesda Naval Medical Center, the Navy's premier medical facility, is in danger of losing its national hospital accreditation. A survey team from the Joint Commission on the Accreditation of Hospitals (JCAH) has concluded that Bethesda fails to meet its quality assurance standards, which stipulates that each hospital must regularly evaluate the quality of care afforded the patient. The team recommended that Bethesda's accreditation be revoked.

In a later article appearing in the May 10th issue of Defense Week, the Honorable James Goodrich, Undersecretary of the Navy, asked that the Navy Inspector General—rather than the Surgeon General—"be assigned responsibility for correcting several quality-of-care deficiencies which have long existed at Bethesda Naval Medical Center." Mr. Goodrich stated that he felt that "a possibility exists that Bethesda may not be able to gain the full accreditation status." Mr. Goodrich went on to state that "the negative financial, public image and internal service credibility impacts of such an occurrence would be most severe."

Would you explain how the Navy's Surgeon General's Office can let such a thing as the Navy's premier medical facility be in such a condition that the Joint Commission on Accreditation of Hospitals recommend against accreditation for the facility because it failed to meet quality-of-care status?

Admiral Cox. First, it should be understood that the JCAH recommendation for non-accreditation was based on inadequate documentation of quality assurance assessment of health care delivery. At no time has JCAH made reference to professional inadequacies at the medical center. In 1981, new JCAH Quality Assurance Standards and the Navy's Health Care Quality Assurance/Risk Management Program were implemented. They both require health care delivery facilities to coordinate and integrate departmental and committee reviews of patient care. Such reviews should focus on problems involving, directly or indirectly, patient care. Problems should be identified, assessed, resolved, and monitored. In order to substantiate these activities, documentation is required.

Prior to the November 1981 survey, it was believed the Quality Assurance review activities employed at the National Naval Medical Center were adequate to evaluate the health care provided, and conform to the new Standards of the JCAH.

QUESTION. If the loss of accreditation would occur, what would this mean with respect to cancellation or severe curtailment of Bethesda's extensive internship and residency programs for doctors and nurses? Many medical schools will not permit their students to accept an internship at a non-accredited hospital.

Admiral Cox. If National Naval Medical Center had permanently lost its accreditation, it would have been necessary to consider reassignment of interns and residents to other teaching hospitals in the Navy Medical Department: Naval Regional Medical Center Portsmouth, Naval Regional Medical Center Oakland, Naval Regional Medical Center San Diego, or Naval Aerospace Regional Medical Center Pensacola. It must be remembered, the accreditation procedures established by JCAH allow a hospital to reapply for survey within six months. Obviously, substantial compliance with the standards is required. Considering the type of issues raised by JCAH, and corrective action underway at National Naval Medical Center Bethesda, the period of non-accreditation would be for only a short period, that is, if it should happen at all.

QUESTION. The recommendation against accreditation for the Bethesda facility surfaced last November. Some of the deficiencies were: inadequate review of the quality and appropriateness of health care provided by the hospital's emergency room; inadequate review of the use of antibiotics; an inadequate review of the respiratory care service; inadequate monitoring of the use of the hospital's blood supplies; and for other medical services. In mid-April, the Joint Commission on the Accreditation of Hospitals gave the Bethesda facility an additional 60 days to correct the deficiencies. Another inspection was scheduled for mid-June. What is being done to assure this facility an opportunity to gain full accreditation?

Admiral Cox. During the period between mid-April's extension of National Naval Medical Center's accredited status and the 29 June 1982 single-physician surveyor visit, the Navy Inspector General provided assistance to the command between June 10 and June 21. There were four Medical Department augmentees to this team. Additionally, personnel from the BUMED Quality Assurance Division paid at least 6 visits to the command and carefully assessed the National Naval Medical Center's Plan of Action and Milestones submissions addressing each of the JCAH survey findings dating from the November 1981 visit. As a routine procedural matter, JCAH indicated it would conduct a single-physician surveyor visit to Bethesda in June to verify the hospital's ongoing compliance with the Quality Assurance Standards in question. JCAH indicated that National Naval Medical Center's accredited status would remain in force until a final determination subsequent to this visit was made.

On 29 June 1982, at the summation brief, the physician surveyor expressed to the Command Officer high praise for the medical staff's quality assurance efforts. The official report of this resurvey visit remains pending at this time.

The Bureau of Medicine and Surgery and the command have every confidence that a favorable accreditation decision will be rendered by the JCAH shortly.

DEPARTMENT OF DEFENSE DEPLOYABLE MEDICAL SYSTEMS

Introduction. Last year, the Committee denied the Navy $87.8 million which had been budgeted for the procurement of Fleet Hospitals. The funds were denied because the Committee was not convinced that the overall program for procurement of deployable medical systems by the Department of Defense was being well managed. There was concern about overlap and duplication, proliferation of different systems and overall program cost.

After last year's action, the Committee requested the General Accounting Office to review these programs. GAO provided a letter report to the Committee on July 15, a copy of which will be inserted in the record at this point.

[The GAO letter report follows:]

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

HUMAN RESOURCES
DIVISION

July 15, 1982

B-208239

The Honorable Joseph Addabbo
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

Subject: Variations in the Military Services' Contingency Hospital Programs: Concerns Remain (GAO/HRD-82-101)

In December 1981, the work we had undertaken to assess the military services' hospital construction plans and plans for acquiring and deploying contingency hospitals--hospitals that would become operational in case of war--was redirected to assist your Committee in considering the services' fiscal year 1983 budget request for their contingency hospital programs. We provided details on the status of all the services' programs and their future plans to your office in May 1982. This report summarizes and updates the results of that work.

The lack of coordination, with the resulting potential for needless overlap, duplication, and waste, was the principal reason the Congress deleted $87.8 million from the Navy's 1982 contingency hospital budget request, with the understanding that together, the services would develop a coordinated and cost effective approach to meeting their wartime hospital needs. Major differences still exist in the services' contingency hospital programs, encompassing hospital acquisition costs, and operational requirements. While mechanisms to foster interservice coordination have recently been established, they have not had time to significantly affect the services' plans and budgets. Furthermore, the military services do not know the total cost of their programs, which may well exceed the estimated $1.3 billion in hospital procurement costs. These factors, coupled with the specific concerns with individual service programs discussed below, provide ample basis for continuing concern with the development of these programs.

(101051)

BACKGROUND

In recent years, military medical readiness has increasingly become an issue of concern to the Department of Defense (DOD) and the Congress. The issue involves assessing and enhancing many levels of medical care, including

--the ability of the medical corpsman to provide medical care in the field;

--the use of small, usually mobile combat zone hospitals that provide quick, stabilizing medical treatment;

--the use of more fixed, larger hospitals in the communications zone, a relatively safe area outside the combat zone but within the theater of operations, where more definitive, longer term treatment can be provided; and

--the capability of military and civilian hospitals to accommodate wartime casualties.

The three military services, each with its own program, have placed significant emphasis on the communications zone contingency hospitals. Because the military believes that any conventional war will produce many casualties early in the conflict, the contingency hospitals must be operable soon after the conflict begins.

Our objectives were to compare and contrast the approaches each of the services followed in developing their contingency hospital programs. Specifically, we sought to obtain information on (1) the cost to obtain, store, and maintain the hospitals; (2) the operational requirements of the hospitals; and (3) the extent to which the services were coordinating their programs. As used throughout this report, contingency hospital program refers to the programs to buy the Air Force 500-bed hospitals, the Army 1,000-bed general hospitals, and the Navy 250- and 500-bed hospitals. 1/ For the most part, these are to be used in the communications zone. However, for the Navy's program, we also included hospitals to support the Rapid Deployment Force (RDF) because, at the start of our work, the Navy had planned to buy essentially the same hospital, called fleet hospital, for this purpose. Since the submission of its fiscal year 1983 budget request, the Navy has altered this part of its program to include more mobile hospitals to be used in the combat zone.

1/For certain hospitals, the Navy plans, with minor modifications to the hospital core, to expand their capacity to 1,000 beds.

We conducted our work primarily in Washington, D.C., where we met with representatives of the Office of the Assistant Secretary of Defense, Health Affairs, to determine its role and responsibility in developing and coordinating the contingency hospital programs. We also spoke to representatives of various DOD coordinating groups to obtain information on their efforts. In addition, we met with representatives of the three military services responsible for the contingency hospital programs to discuss the development and progress of their programs. To the extent available, we obtained detailed information on their procurement schedules; the costs associated with buying, storing, and maintaining the hospitals; storage requirements and locations; and transportation, setup, and operational requirements.

We concentrated our efforts primarily on the use of contingency hospitals in a NATO scenario and, in this regard, met with representatives of the U.S. European Command and the Army, Air Force, and Navy in Europe to obtain information on wartime bed requirements; the status of host nation support agreements; and deployment requirements and locations of contingency hospitals within the communications zone.

SIGNIFICANT DIFFERENCES EXIST BETWEEN THE SERVICES' HOSPITAL PROGRAMS

Because the services' planning for contingency hospitals is ongoing, we were unable, with the time and information available, to make a definitive evaluation or comparison of their programs from either a cost or operational standpoint. DOD officials told us that, while the services are designing their own programs, contingency hospitals to be used in the communications zone have basically the same mission and should be similar. Nevertheless, although all costs are not known, a number of cost and operational differences in the services' programs are apparent.

Cost differences

None of the services had developed estimates for the total costs of their contingency hospital programs; however, hospital acquisition costs alone are estimated to be over $1.3 billion through fiscal year 1988. As shown below, the procurement costs vary substantially among the services.

	Navy (note a)		Air Force	Army
Estimated costs (millions)	$780.3		$233.6	$369.1
Estimated cost per hospital	$23.4	$28.0	$7.5	$20.5
Number of beds per hospital	250	500	500	1,000

a/This includes a number of hospitals for RDF, estimated to cost $151.9 million. The total number of hospitals, beds, and estimated costs changed as of June 22, 1982. As of this date, the Navy received approval for a revised contingency hospital program estimated to cost $508 million. The Navy's new program will include fewer hospitals with a different mix of combat and communications zone hospitals, larger (1,000 bed) hospitals, and increased use of existing buildings for hospitals to be pre-positioned.

A number of differences in the services' programs contribute to these procurement cost variations. First, the services have different approaches to providing shelters in which to set up their contingency hospitals placed in the communications zone. The amounts estimated for shelters by each of the services are shown below for comparison purposes.

Service hospital	Procurement costs for shelters
	(millions)
Army 1,000-bed	$ 0
Air Force 500-bed	.4
Navy 250-bed (note a)	6.0
Navy 500-bed (note a)	7.2

a/Estimated amounts are for all shelters needed to house all hospital components, including the medical core, hospital support, and administrative support.

The Army plans to rely totally on existing buildings, many of which are presently occupied but will be vacated at the time of war. As a result, the Army has not budgeted any funds for shelters in which to set up its hospitals. The Air Force also plans to use existing buildings for many hospital functions, such as wards, staff housing, and dining facilities, but will buy a limited number of shelters, such as prefabricated units for its operating rooms and several tent-type passageways. In contrast, the Navy plans to buy an extensive shelter system for its hospitals, consisting of panelized knockdown shelters and prefabricated units for the medical core, and a variety of tents for wards and staff housing. Although the Navy may reduce its shelter costs by using existing buildings for hospital support and/or base support services at predesignated locations, it still plans to procure shelters for the entire medical core.

In cases where the services plan to use existing buildings to shelter their hospitals, costs will be incurred to ready them for use. Therefore, although the Army and the Air Force may not have the same high procurement costs for shelters as the Navy, they will incur other expenses for improvements to existing buildings. Because few renovation costs have been identified, a complete cost comparison cannot be made.

A second major difference in the services' programs contributing to procurement cost variations is their different approaches to providing utilities. The Navy is planning to procure complete utility systems, including heating, air-conditioning, water storage, and sewage disposal. The Navy estimates these utility systems will cost about $4.0 million for a 250-bed hospital and $5.0 million for a 500-bed hospital. The Army and the Air Force have little, if any, utility procurement costs because they plan to take advantage of existing utility systems at deployment sites. However, costs to repair and/or upgrade the utility systems could be substantial, but are not known for all sites. As a result, a complete comparison of utility costs cannot be made.

A third reason for the differences in the services' procurement costs is due to variation in their medical equipment and supply costs. The following table shows each service's procurement cost for medical equipment and supplies.

Service hospital	Procurement costs for medical equipment and supplies
	(millions)
Air Force 500-bed	$ 6.0
Navy 250-bed	8.2
Navy 500-bed	8.9
Army 1,000-bed	11.3

Although we did not conduct an item-by-item comparison of the hospitals' medical equipment and supplies, reasons for these procurement cost differences cited by service officials include:

--Navy's and Army's equipment and supplies support a wider range of medical subspecialties than those of the Air Force,

- --Air Force's hospital is more surgery-intensive than that of the Army, and

- --Army's medical equipment and supplies include estimates for high technology items, such as CT scanners, adding $1.7 million to the cost.

Not all program costs are known

In addition to the estimated $1.3 billion needed to procure contingency hospitals, the services will incur additional costs to prepare the sites where hospitals will be located, to build warehouses to store the hospitals, and to pay recurring expenses for leases, utilities, and maintenance of the buildings and sites. Other expenses, such as personnel costs for those assigned to manage the equipment and supplies at the sites, will probably be incurred.

Because the services have not finalized locations for all their hospitals and because detailed site surveys have been completed for only a few sites which have been identified, many of these associated program costs are not known. Costs to survey sites and make site improvements appear to be significant, but the services have only limited information on these costs. For example:

- --The Air Force spent about $32,000 for one site survey and estimated $1.4 million will be needed for site improvements, such as repairing the building and upgrading the electrical, heating, ventilating, and air-conditioning systems. One-time costs to upgrade other sites are not fully known. The Air Force hopes to identify sites with adequate buildings for all its hospitals. However, at some approved sites it may be necessary to lease land and build warehouses to store the hospitals, at an estimated cost of about $3.5 million per site.

- --The Navy recently completed its design for contingency hospitals and estimated site improvements for each of two hospital sites to be $2.3 and $2.5 million. The hospital design contract and site surveys cost about $2.4 million. The Navy has not determined where other hospitals will be located and, as a result, no other estimates are available.

- --The Army had not conducted any detailed site surveys to estimate costs for site improvements. However, feasibility studies have indicated that expensive modifications might be needed for heating, electrical, and water distribution systems as well as to the buildings which would house operating rooms, intensive care wards, and dining facilities. Temporary buildings will be required to house the hospital core in certain cases.

Not only are one-time costs to prepare the sites for contingency hospitals often unknown, but estimates for annual recurring costs (e.g., utility and security) are generally unavailable. Only the Air Force was able to provide us with estimates of some of those costs and only at a few specific sites where hospitals are to be located. These recurring costs ranged from about $172,000 to $1 million annually at individual sites. The Army and the Navy could not provide similar estimates for annual recurring costs.

Operational differences

Each of the services is following a different peacetime storage strategy which will affect how quickly the hospitals can be set up and made operational in the event of war. The Air Force plans to pre-position its hospitals for the most part already setup. This strategy should enable the Air Force's hospitals to become operational quickly. The Army and the Navy, on the other hand, plan on storing their hospitals until a war breaks out. The Army plans to store its hospitals at a central depot in the United Kingdom and move them to preselected sites when needed, unless there are facilities and resources to store them onsite. The Navy plans to store some of its hospitals at pre-positioned sites but will not set them up until needed. The Army's and Navy's approach raises questions about their ability to respond in a timely manner because of the substantial resources required to transport and/or set up hospitals when wartime demands on these resources would be heavy. None of the services had tested its approach to determine if the hospitals can be ready when needed.

The Army and the Navy approaches will require substantial logistical support to transport and/or assemble their hospitals. For example, the Army estimates it will need 91 railroad cars and 114 trailers to move a 1,000-bed hospital from its storage depot in the United Kingdom to a site within that country where it will be used. Once on site, it estimates that about 245 personnel, many of whom are skilled workers, such as plumbers and electricians, will be needed to set up the hospital. The logistics requirements to move hospitals stored in the United Kingdom to other sites in Europe could be even greater. The Navy estimates a battalion of Seabees (630 personnel) would be needed to set up a complete hospital at its operational site. All of the services have requested support from the United Kingdom to assist in wartime hospital setup there, but no specific agreements have been completed.

The services do not have reliable information on how long it will take to activate their hospitals. Estimates vary from 7 to 10 days for the Air Force to make its setup hospitals fully operational, to a minimum of 28 days for the Army to move hospitals from the central depot to the hospital sites in the United Kingdom and then set them up, to 30 days for the Navy to assemble its hospitals onsite. The services have little experience on which to base the above estimates. The Navy field-tested its hospital design, and about 30 days were needed to set up 40 percent of the hospital core. However, the Navy said that setup time was not a factor being tested. Although the Army used general hospitals during the Vietnam war, it was unable to provide historical data on the setup time needed. The Air Force has no experience on which to base its estimates.

Personnel requirements for operating the services' contingency hospitals also differ. The Air Force estimates that 765 personnel will be needed to operate its 500-bed hospital, the Army estimates 644 to operate its 1,000-bed general hospital, and the Navy estimates 1,163 to operate its 500-bed hospital. We did not have time to determine why there are such wide variances in personnel requirements.

COORDINATION AND STANDARDIZATION EFFORTS NEED TIME TO DEVELOP

In its report on DOD fiscal year 1982 appropriations, the House Appropriations Committee expressed concern over the apparent lack of coordination among the services' contingency hospital programs. The absence of coordination was cited by the Committee as potentially causing overlap, duplication, and wasteful expenditures of money.

Not until recently have substantive actions been taken to improve coordination. Several multiservice coordinating groups have been established within DOD to promote coordination and standardization of wartime medical programs. Their work includes efforts directed at emphasizing cross-service sharing of hospitals by joint planning of bed-requirements and identifying common equipment and supplies for use in each service's hospitals. Also, under DOD's Assistant Secretary of Defense for Health Affairs, an office has been established to oversee military medical readiness activities. Although the Office of the Assistant Secretary can influence a service's program through the DOD budget process by challenging proposed expenditures, its role has been mainly advisory.

The ability of the Office of the Assistant Secretary to influence services' programs will be significantly expanded under the authority of a recently approved DOD Instruction prescribing policy and assigning responsibilities regarding the standardization and acquisition of deployable medical systems. Under the provisions of that Instruction, the Assistant Secretary will have the authority to prohibit service procurements of deployable medical systems not in compliance with yet-to-be-developed criteria governing such systems. The new DOD Instruction also gives the Assistant Secretary the responsibilities to

--approve the standardized field medical systems developed by the multiservice group responsible for that task and

--resolve, in consultation with the DOD Health Council, any deployable medical system standardization issue on which the services cannot agree.

This DOD Instruction appears to provide the necessary authority for promoting coordination and standardization of field medical systems. The services will have 120 days from the official date of issuance (printing date) to report on how they plan to implement this Instruction; the DOD Instruction had not been printed as of June 21, 1982.

These recent efforts have not yet significantly affected the services' programs and could require substantial time to do so. For example, an official involved in the multiservice effort to standardize the listing of equipment and supplies used in field hospitals estimated that it will take about 1 year to complete. Additional time can be expected for the services to incorporate such equipment and supplies into their procurement systems.

PLANNED PROCUREMENTS FOR FISCAL YEAR 1983

In fiscal year 1983, the Air Force plans to buy four 500-bed contingency hospitals, the Army plans to buy hospital equipment and supplies equaling three partial 1,000-bed general hospitals, and the Navy had proposed in its fiscal year 1983 budget to buy one 250-bed hospital and two 500-bed hospitals to support RDF. The estimated procurement costs for the services' fiscal year 1983 programs are $21.1 million, 1/ $55.4 million, and $77.3 million, respectively.

Since its fiscal year 1983 budget submission, the Navy reconsidered the feasibility of using the same hospital design and shelters for the RDF and NATO scenarios and changed its program to include separate combat and communications zone "field" hospitals. The combat zone field hospital would provide a lower level of care and would consist mostly of tent-type facilities. The communications zone field hospitals remain essentially the same as the fleet hospital design. Because the precise costs of the combat zone hospitals were not known, the 1983 estimated budget for these hospitals was based on the cost of the original fleet hospitals' design. Subsequent lower cost estimates indicate that an additional 250-bed combat zone field hospital, originally programmed for fiscal year

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1/This amount includes only the cost of medical equipment, supplies, and vehicle costs. Other associated costs, such as shelters, are not included.

1984, can be procured with the funds requested for fiscal year 1983. As a result, the Navy intends to procure a communications zone field hospital in fiscal year 1984, a year sooner than planned.

Navy officials told us that they have been standardizing their combat zone hospitals with the Air Force plans for RDF hospitals. The Navy now plans to combine much of the Air Force's RDF hospital equipment and supplies with the Navy's shelter design.

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The services plan substantial expenditures for contingency hospitals over the next several fiscal years. Major differences in the programs remain as well as many unknowns. Coordination and standardization efforts recently begun could help to eliminate unnecessary program differences and reduce costs, but need time to fully develop.

We plan to continue to monitor the services' programs and their coordination activities and trust that this report will be helpful to the Committee in its deliberations on the 1983 budget.

Sincerely yours,

Gregory J. Ahart
Director

Question. GAO reports that mechanisms to improve interservice coordination have recently been improved, but there is still cause for concern I would like to discuss with you some of these concerns.

DEPARTMENT OF DEFENSE INSTRUCTION

On June 21, 1982, the Department of issued DoD Instruction 6430.1 titled "DoD Deployable Medical Systems." What are the main features of this instruction, and how will they improve coordination and management of deployable medical systems?

Dr. Beary. A copy of the instruction has been provided for the record. The instruction: (1) Sets a policy of standardization. (2) Mandates that DoD components shall acquire only field deployable medical systems developed by the Field Medical Systems Standardization Steering Group (FMSSSG) and approved by the ASD(HA).

Question. How will this instruction be implemented?

Dr. Beary. The Military Field Medical Systems Standardization Steering Group (MFMSSSG) develops standardized functional components (operating rooms, for example). The MFMSSSG then reviews similar Service systems composed of standardized components, documents and justifies any variances, and recommends the systems to the ASD(HA) for procurement approval. The ASD(HA) will approve no system which does not conform to DoD policy on standardization.

Question. How will standardization and coordination be enforced under this instruction?

Dr. Beary. The ASD (Comptroller) will release funds for procurement of field medical systems only for the systems approved by the ASD(HA).

Question. Why were these standardization and coordination efforts not initiated at the start of the current build-up of field medical systems rather than after the program was well underway?

Dr. **Beary.** The steps toward standardization did begin with the development of the Air Force's new deployable hospitals. The Army and Navy programs to greatly increase medical support capabilities are only beginning. Progress toward standardization was initially slow, but is now quite rapid and will govern the entire build-up.

Question. What progress has been made to date in standardizing DoD deployable medical systems and coordinating requirements and procurement.

Dr. **Beary.** The July 23, 1982, report of the Chairman of the Standarization Steering Committee has been submitted for the record.

Question. What is the plan or schedule for approving DoD deployable medical systems as required by this instruction?

Dr. **Beary.** The July 23, 1982, report of the Chairman of the Standardization Steering Committee has been submitted for the record. It includes a plan of action and milestones for achieving standardization, and describes progress made so far. Systems will be approved following their standardization and ASD(HA) review.

BUDGETING FOR DEPLOYABLE MEDICAL SYSTEMS

Question. GAO pointed out that the three services follow completely different practices in the budgeting for deployable medical systems. The result is a confusing mixture of procurement, stock fund, and O&M funding which makes comparisons virtually impossible. Why have the Services been allowed to follow different procedures for (funding) the same type of equipment?

Dr. **Beary.** Service programming and funding procedures are established by the Military Departments. The different procurement practices for medical units reflect differences among the Services' overall procurement systems which have heretofor been acceptable to the Congress.

Question. Is there any reason that budget presentation for this equipment could not be standardized?

Army Answer. No. Provided a common methodology is devised to budget for all items in all Services; i.e., common method in medical equipment and supplies, vehicles, shelters, base support equipment and supplies, power generation equipment, etc.

Navy Answer. I know of no reason, but Navy Financial Managers should be consulted. At the very least, a display presented each year could be devised.

Air Force Answer. Standardization of budget presentation would be difficult. Programming for support activities varies among the Services. The Air Force Medical Service relies on the line of the Air Force for many base support functions, for example, roadways, water and waste systems and electrical systems. The Army and Navy have different systems.

Question. Are you able to tell us the total costs for each of the following, and explain any differences;

a. Army Combat Zone Hospitals;

b. Army Communications Zone Hospital;
c. Air Force Communications Zone Hospital;
ARMY ANSWER.

	Millions
a. Army Combat Zone Hospital:	
(1) Mobile Army Surgical Hospital	$8.1
(2) Combat Support Hospital	16.8
(3) Evacuation Hospital	20.4
b. Army Communication Zone Hospital:	
(1) Field Hospital	6.2
(2) Station Hospital (300 Beds)	12.2
(3) Station Hospital (500 Beds)	13.2
(4) General Hospital	20.5

A detailed analysis of the differences in all the services deployable hospitals is being developed by the Military Field Medical Systems Steering Group. Differnces are real and derived from fundamental differences between the Services. First, the Service's operational mission requirements and doctrinal employment are different. Because of this, the Services differ in organization and the way various elements of support are provided. Second, the Days of Supply vary within the Services' hospitals due to differnces in mission, mobility required, and logistics doctrine. Other differences may exist and should be identified in the on-going efforts of joint standardization.

NAVY ANSWER. Navy Combat Zone Hospital; Navy Communication Zone Hospital.

Total cost of the Navy 250-bed Combat Zone is $15.3 million; for the Navy 500-bed Combat Zone, total cost is $21.6 million.

Total cost of the Navy 500-bed Communication Zone is $23.7 million; for the Navy 1,000-bed Communication Zone, total cost is $28.6 million. The combat hosptials are less expensive than communication zone hospitals due to use of fabric tentage instead of panelized hard-wall shelter systems and because of the use of less sophisticated medical equipment.

Air Force answer. Air Force Zone Hospital; Air Force Communications Zone Hospital.

Total costs are variable because wartime hospitals will be prepositioned where buildings of opportunity are available. Where buildings of opportunity do not exist, storage and operational facilities must be provided through the military construction program. Other variable costs include state of repair of buildings, use and availability of utilities. These are dependent upon Host Nation negotiation and agreement.

Fixed cost for the medical and non-medical WRM stock fund materiel, vehicles, power, and shelters for the combat zone and the communications zone medical facilities are the same—$7.5 million per facility. A few selected hospitals in the communications zone will eventually be equipped as specialty centers for neurosurgery, peripheral vascular surgery, opthalmology, ENT, and angiography. This added capability is being developed and is estimated to cost about $475,000 per hospital. The $7.5 million includes $.750 for generator support, but does not include $3.2 million to store WRM materials or $.370 for transportation costs. These are variables that depend on availability of buildings of opportunity and level of Host Nation support to be gained through Host Nation support agreements.

Annual recurring costs are $910,000; annual personnel costs in peacetime are $128,000; and other associated costs are $400,000 for each combat zone/communications zone hospital. These are current working estimates based on limited experience. These are subject to change as additional units are procured. They also are dependent on availability of buildings of opportunity and level of Host Nation support to be gained through Host Nation support agreements.

Question. GAO estimated that hospital acquisition costs alone were $1.3 billion with additional, unknown, costs required for site preparation, storage, and maintenance.

Do you agree with the GAO estimate? If not, what solid budget data can you give us to substantiate a different estimate?

Dr. **Beary.** The GAO estimate of hospital acquisition costs is accurate. The unknown costs can only be determined through development of complete Host-Nation Support (HNS) Agreements including site preparation, storage, and maintenance. It is important to note that the alternative to developing such agreements is for the United States to bear the total cost of storing the units in peacetime and erecting and operating them in wartime.

Question. What are the total estimated costs for all items associated with the deployable system program?

Answer. The total estimated costs for all items associated with the deployable system program are included in the GAO's estimated total costs, $1.3 billion, excepting those which will be required to fulfill the U.S. commitments in the HNS Agreements now under development.

COST FOR COMMUNICATIONS ZONE AND RDF HOSPITALS

Question. In each Service, please provide for the record detailed cost information on the communication zone hospitals, and combat zone medical systems, including those to be used for the RDF:

Expenditures to date by budget category include procurement costs, military construction funds, recurring costs, personnel costs, and any other associated costs.

Army Answer. The Army has had field hospital units in its force structure since its very beginning. The efforts have been continuous to equip, modernize, reorganize, etc., these combat hospitals in line with Army doctrine to conserve the fighting strength. For example, General Hospitals have been used in past wars and conflicts just as they are envisioned to be used in future wars. Efforts now ongoing with General Hospitals are to modernize the medical and non-medical equipment and supplies to the extent that will support the Army of the 1980s/1990s. The Army has also identified the need to place General Hospitals in POMCUS in Europe to reduce transportation requirements and satisfy the early hospitalization requirements. Initiatives are also included in the Five Year Defense Program (FYDP) to upgrade General Hospital sets already stored in Europe, Japan and CONUS depots. The hospitals being placed in POMCUS were, heretofore, a requirement in the CONUS war reserve stockpile. Assets which were accumulated in CONUS war reserves are being bought out with OMA/OPA, if still applicable under the modernization, and being placed in POMCUS.

Prior to what has become known as MUST hospitals, there existed in the Army force structure what was termed conventional Evacuation and Surgical/MASH hospitals. The Army again reorganized its combat zone hospitals and incorporated a Mobile Army Surgical Hospital (MASH) to improve mobility and provide intense surgical capability. The first current version MASH was organized and outfitted in 1982. This was accomplished with a combination of new equipment, as well as, using existing assets of MUST equipment, i.e., utility power pack and expandable shelter.

Specific costs identified to this total effort are not readily available. Data pertinent to MUST has been provided in past years Congressional record. This can again be provided if required. Programming and budgeting for all other efforts has been decentralized to major commands or subordinate stock fund activities prior to 1981. The funds used in fiscal year 1980–82 for General Hospitals are detailed in Insert number 22. The total fiscal year 1983–87 program for medical materiel for field medical equipment is shown in Insert number 31. Total central program for fiscal year 1980–82 is as follows:

[In millions of dollars]

	Fiscal year—		
	1980	1981	1982
OMA	12.4	13.1	16.5
OPA (Combat support equipment, medical)	0	.2	8.1
OPA (Combat zone hospital equipment)	0	0	[1] 1.0

[1] Diverted from Combat Support Equipment, medical to procure shelters for conversion of first MASH.

Navy Answer. The display below provides the requested information:

FISCAL YEAR 1983 HOSPITAL UNITS COSTS

[In thousands of dollars]

	250-bed combat zone	500-bed combat zone	500-bed COMZ	1,000-bed COMZ
Medical	3,219	4,889	8,530	9,918
Shelter	5,654	7,203	7,556	5,954
Generators	560	840	1,323	3,130
Telephones	98	146	138	278
Utilities	3,837	5,988	5,437	6,952
Tools and supplies	349	593		850
Vehicles	1,583	1,941	760	1,518
Total	15,300	21,600	23,745	28,600

Two 250-bed combat zone units and two 500-bed combat zone units are planned to be procured in fiscal year 1983 in support of the Rapid Deployment Joint Task Force.

Expenditures to date by category include:

OBLIGATIONS

[In millions of dollars]

	Fiscal year—			
	1979	1980	1981	1982 (estimate)
O&M,N	0	0.3	3.9	1.5
OPN	2.0	0	[1] 5.0	0
MPN			.3	.8

[1] Long lead procurement of 750 KW generators to be delivered in fiscal year 1984.

Air Force Answer. Obligations through fiscal year 1982:

[Dollars in thousands]

	Budget category	Command zone	Combat zone
Procurement cost	3080	10,805	2,895
AF stock fund	4921	31,689	5,458
MCP funds	3300	0	0
Recurring cost	3400	1,601	169
Personnel costs	3500	020	0
Other costs	3400	1,081	150

Question. Unit cost breakdown for shelters, equipment and supplies, vehicles, utilities, storage costs, transportation costs, and preparations costs for:

The Air Force 250-bed RDF hospital;

The Air Force 500-bed communications zone hospital;

The Navy 250 and 500-bed RDF hospital;

The Navy 1,000-bed hospital; and

The Army's RDF hospital.

Army Answer. Unit cost breakdown for the Army's 1000-bed General Hospital and Combat Zone Hospitals which also support RDF-Army are provided below:

[In millions of dollars]

Cost element	General hospital	Evacuation hospital	Combat support hospital	Mobile Army surgical hospital
Medical equipment and supplies	13.2	3.8	2.7	1.9
Shelters	[1] 0	1.8	1.6	.6
Power generation equipment	3.0	1.4	1.1	.6
Vehicles	.4	1.0	1.3	1.8

[1] Current efforts are oriented to the use of buildings of opportunity to operate General Hospitals during mobilization.

Storage, transportation (to peacetime storage location) and preparation costs are computed by the various agencies, major commands, etc., which have responsbility for these functions and are not readily available by specific hospital. It is assumed that preparation costs imply getting the unit operational at its mobilization site. In planning for mobilization/war these are costs not normally considered. The Mobile Army Surgical Hospital is designed to move to its mobilization site with its own organic transportation, set up totally bare base within its own shelters and function autonomoulsy relying of course on the battlefield organizational structure for its sustaining support. On the other hand, the General Hospital requires support to be moved to its mobilization site. For this reason efforts included co-locating the POMCUS unit material at mobilization station which will incur costs (which are now being developed). Between these two extremes are the Evacuation and Combat Support Hospitals which are partially mobile with organic vehicles and opearate within organic shelters.

NAVY ANSWER. The display below shows the total procurment cost breakdown. Costs associated with operational deployment beginning in fiscal year 1985 and host nation support beginning in fiscal year 1987 are not yet available.

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FY-83 HOSPITAL UNIT COST
($ in thousands)

	500 BED COMMZ			250 BED COMBAT ZONE			500 BED COMBAT ZONE			1000 BED COMMZ		
	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost
MEDICAL EQUIPMENT												
Operating Room			$2,751			$1,344			$2,106			$2,983
Wards			1,006			212			422			1,207
Casualty/Receiving			990			124			135			1,188
Central Sterile/Supply			800			93			125			959
X-ray			1,099			446			608			1,319
Pharmacy			724			79			127			869
Dental Clinic			95			112			112			114
Medical Repairs			100			38			38			121
Nursing Services			190			212			422			228
Lab			94			156			182			113
Blood Bank			77			49			49			92
Medical Clinic			226			59			70			271
Eye Clinic			180			74			74			216
All Others			198			221			419			238
Sub-total			$8,530			$3,219			$4,889			$9,918
SHELTERS			7,557			5,654			7,203			5,954
GENERATORS												
100 KW Gen.				74	16	560	74	24	840			
200 KW Gen.	57.5	23	1,323							57.5	6	345
750 KW Gen.										397.8	7	2,785
Sub-total			$1,323			$560			$840			$3,130
TELEPHONE			138			98			146			278
UTILITIES												
Heating, Air Cond.			1,239			959			1,498			1,739
Freshwater Plumbing			812			883			1,377			1,624
Sewage Collection			203			230			359			406
Electricity			3,183			1,765			2,754			3,183
Sub-total			$5,437			$3,837			$5,988			$6,952

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FY 83 HOSPITAL UNIT COSTS
($ in thousands)

	500 BED COMMZ			250 BED COMBAT ZONE			500 BED COMBAT ZONE			1000 BED COMMZ		
	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost	Unit Cost	# Units	Cost
TOOLS and SUPPLIES						$349			$593			$850
VEHICLES												
Bus, BOC, 30 Pass., Amb.	$93.1	7	$652							$93.1	14	$1,303
Truck, Amb.	26.9	4	108							26.9	8	215
Sub-total (Amb.)			$760									$1,518
Truck, forklift(20,000)				$126.0	1	$126	$126.0	1	$126			
Truck, forklift(6,000)				84.0	1	84	84.0	1	84			
Truck, tractor				89.3	2	176	89.3	3	268			
Truck, amb.				28.0	8	224	28.0	12	336			
Truck, tank, water				33.9	2	68	33.9	2	68			
Truck, tank, fuel				41.0	2	82	41.0	2	82			
Truck, wrecker				105.0	1	105	105.0	1	105			
Truck, utility, ¼ton				15.8	3	47	15.8	3	47			
Truck, cargo, 1¼ ton				11.4	1	11	11.4	2	23			
Truck, cargo, 1¼ ton				15.8	1	16	15.8	1	16			
Truck, contact maint.				10.5	1	11	10.5	1	11			
Truck, cargo, dropside				86.6	4	346	86.6	5	433			
Trlr, dual purpose				15.6	2	31	15.6	3	47			
Trlr, amph.				1.9	3	6	1.9	3	6			
Trlr, cargo				2.6	3	8	2.6	4	10			
Trlr, decon.				7.4	1	7	7.4	2	15			
Trlr, cargo 1½ ton				4.1	4	16	4.1	5	21			
Trlr, tank, water				10.0	4	40	10.0	5	50			
Container, refrig.				9.1	3	27	9.1	4	36			
Container, mil van				2.1	8	17	2.1	12	25			
Fire Truck				132.3	1	132	132.3	1	132			
Sub-total (trucks/trailers)						$1,583			$1,941			
MEDICAL			$8,530			$3,219			$4,889			$9,918
SHELTER			7,556			5,654			7,203			5,954
GENERATORS			1,323			560			840			3,130
TELEPHONE			138			98			146			278
UTILITIES			5,437			3,837			5,988			6,952
TOOLS and SUPPLIES						349			593			850
VEHICLES			760			1,583			1,941			1,518
TOTAL			$23,745			$15,300			$21,600			$28,600

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The basis for the cost estimates is as follows for each category of cost:

(1) Medical Equipment (OPN) commerical catalogs and standard stock item costs provided by the Defense Logistics Agency were developed for each line item.

(2) Shelters (OPN) Costs for general purpose tents, TEMPER tents and standardized ISO containers were based on standard DOD prices. Contractor estimates based on commerical prices were used for these units where there is little or no procurement experience.

(3) Utilities (OPN) Generators and other utility costs are based on DOD standard unit costs.

(4) Vehicles (OPN) Vehicle prices are based on the standard costs estimated by the DOD vehicles single manager.

Air Force Answer. The following cost estimates are based on Tables of Allowance and empirical data for 60 day units ($ millions):

	Funding source	250-bed RDF	500-bed Comm Z
Shelters	3080	3.700	0.400
Equipment and supplies	3080	1.200	1.695
	4921	2.600	4.092
Vehicles	3080	.323	.560
Utilities		(1)	(2)
Storage costs	3300	(2)	[3]3.2
Transportation cost	3080	.067	.370
Preparation		(1)	(2)
Generator	3080	(4)	.750

[1] 2 million programed for utilities and site preparations.

[2] These date cannot be determined. They are dependent on availability of buildings of opportunity and level of host nation support to be gained through host nation support agreements.

[3] Average, where storage is not available.

[4] This data cannot be determined.

Question. In each Service, please provide for the record detailed cost information on the communication zone hospitals, and combat zone medical systems, including those to be used for the RDF. Total projected costs by Service for communication zone and RDF hospitals including procurements, military construction funds, recurring costs, personnel costs and other associated costs.

Army Answer. The Army does not specifically have hospitals, configured to the RDF, but rather has Combat Support Hospitals, Evacuation Hospitals and Mobile Army Surgical Hospitals which can be used in any combat zone scenario. The total projected AMEDD program for field medical materiel and selected nonmedical (shelters and power generation) equipment for Fiscal Years 1983–1987 is $931.4 million and $40,000 programed for site surveys. Fifteen additional manpower spaces are required to place General Hospitals in POMCUS in USAREUR. Manpower required to maintain the materiel in storage already exists at Burtonwoood Army Depot and US Army Medical Materiel Center, Europe. The personnel to operate the hospitals are within the Army's end strength. As agreements, etc., are reached to position materiel at actual mobilization sites, caretaker crews, security forces, etc., may be required at an undetermined cost.

Navy Answer. Total procurement costs for all types of hospitals are provided above. Operational deployment costs and costs associated with host nation support at prepositioned sites overseas are not yet available.

Air Force Answer. Total procurement cost, $247,000,000; total military construction, $35,400,000.

Recurring costs:[1] Comm Z, $910,000—approximate annual cost per hospital. RDF, $260,000—approximate annual cost per hospital for medical supply rotational losses only. Other costs are not available at this time due to the developmental status of RDF basing.

Personnel costs: annual cost per hospital $128,000 (6 EM, 1 Officer).

Total other associated costs: $400,000 per Comm Z hospital.

COMMONALITY OF EQUIPMENT AMONG SERVICES

Question. In the fiscal year 1984–1988 Defense Guidance, the Services are directed to "ensure that deployable medical facilities programmed for procurement in fiscal year 1984 and beyond contain at least 90 percent commonality of line items among the Services."

It is not clear whether this instruction requires that all deployable medical facilities have at least 90 percent commonality of line items or that some subset, such as those providing a similar level of care, have at least 90 percent commonality of line items. Would you please clarify? In addition, it is not clear whether this instruction is referring to an exact 90 percent match in line items among the Services' programs, by national stock numbers or some other identifier, or some type of generic match. Would you please clarify?

Dr. **Beary.** Commonality of equipment is a reasonable goal for medical units having common missions, and the 90 percent guidance was intended only as a goal. The intent was that the 90 percent match should be by national stock number, or specific items, NOT by generic category. Generic commonality would beg the question of costs which are of great concern to Health Affairs, the Services, and, of course, to this subcommittee.

Question. What is the current level of commonality between the Services' deployable medical facilities at present? Specify the basis for any level(s) given.

Dr. **Beary.** The data on hand do not permit us to define the percentage of commonality between those deployable medical facilities which have previously been procured. The July 23, 1982 report of the Military Field Medical Systems Standardization Steering Group (MFMSSSG), which has been submitted for the record, describes the degree of standardization thus far achieved for systems which will be procured in the future. The most complete standardization compatible with the Services' unique missions will be required before procurement is approved.

Question. Why was the 90 percent commonality level chosen as a goal? What is the basis of identifying 90 percent as the criteria?

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[1] Current working estimates based on limited experience. These are subject to change as additional units are procured. They also are dependent on availability of buildings of opportunity and level of Host Nation support to be gained through Host Nation support agreements.

Dr. **Beary**. 90 percent commonality was chosen as a criterion because it represents a high, but achievable, degree of standardization. It is essential to have some objective criterion; the degree of standardization achieved will be the maximum achievable based on missions, workload, and prospective battlefield location.

Question. What action(s) are being taken, or plan to be taken to comply with this guidance?

Dr. **Beary**. The DoD Instruction has been issued. The Military Field Medical Systems Standardization Steering Group (MFMSSSG) has been established. The Working Group of the MFMSSSG is proceeding rapidly with actual standardization of functional components. There will be no procurement of systems which do not satisfy the stated criteria for standardization.

TIME REQUIRED TO SET UP COMMUNICATIONS ZONE HOSPITALS

Question. In the event of war, significant resources will be required to move, set up and operate communications zone hospitals at a time when demands for such resources are critical. In the absence of a host nation support agreement, what assurances do the Services have that such resources will be available?

Army Answer. The Army's force consists of various support elements, such as engineer and transportation units, which are specifically designed for construction work and movement of supplies and equipment. The necessary support would come from these type units in the absence of similar assistance from the host nation.

Navy Answer. Communication Zone hospitals will be erected by Navy Construction Battalions Seabees. Fleet operation plans specify medical facilities among the first priority for construction. Navy communication hospitals will be two types: A complete 500-bed hospital with medical core, medical support facilities and staff base camp which can be erected at any site. The second type will be site-specific using available host nation support, facilities and services.

Air Force Answer. The Air Force plans to set-up its communications zone hospitals in peacetime using buildings of opportunity and new warehouses, where required, at each operational site. All personnel, materiel, and vehicle resources required for operation have been programmed. Future Host Nation support agreements may partially satisfy these requirements.

Question. What are the resources of each of the three Services—in terms of personnel, equipment, and vehicles—to operate the communications zone hospitals?

Army Answer. The Army is authorized all necessary equipment, as well as a substantial number of vehicles required to move the supplies and equipment needed to operate its communications zone hospitals. General Hospitals are authorized a total of 644 personnel, while Field Hospitals are authorized 333 personnel. Station Hospitals (300 and 500 Bed) are authorized 245 and 352 personnel, respective.

Navy Answer. A 1,000-bed communication zone hospital is a small community of over 2,500 personnel. Considerable resources are required to set-up and operate such a complex facility. In general, communication zone hospitals will be positioned around the world eliminating the need for movement after mobilization. A

Navy Construction Battalion or equivalent is required to set-up the hospital and a staff of 1,500 personnel (1,100 medical and 400 non-medical) are required for its operation. The exact numbers and types of equipment and vehicles are provided on the chart below.

1,000 BED COMMZ

	Unit cost	No. of units	Cost
Medical equipment:			
Operating room			$2,983
Wards			1,207
Casualty/receiving			1,188
Central sterile/supply			959
X-ray			1,319
Pharmacy			869
Dental clinic			114
Medical repairs			121
Nursing services			228
Lab			113
Blood bank			92
Medical clinic			271
Eye clinic			216
All others			238
Subtotal			9,918
Shelters			5,954
Generators:			
100-KW generator			
200-KW generator	$57.5	6	345
750-KW generator	397.8	7	2,785
Subtotal			3,130
Telephone			278
Utilities:			
Heating, air conditioning			1,739
Freshwater plumbing			1,624
Sewage collection			406
Electricity			3,183
Subtotal			6,952
Tools and supplies			850
Vehicles:			
Bus, BOC, 30 passenger	93.1	14	1,303
Truck, amb	26.9	8	215
Subtotal			1,518
Total			28,600

AIR FORCE ANSWER. Essential medical elements of Air Force prepositioned wartime hospitals, such as surgery, radiology, and laboratory, will be set-up at the operational site and maintained by a seven man team in peacetime which will provide a "turn-key" operational capability. In time of war, the 749 medical personnel for each hospital arriving from CONUS will comlete the hospital set-up without assistance from other functional groups (i.e., Civil Engineering) or equipment and have the hospital operational within 7–10 days. Standard base support (e.g., fire protection, Civil Engineering, utilities) will be required for operation.

Question. What is the estimated number of days, from mobilization, for each of the Services Communication Zone Hospitals to become operational?

Army Answer. The time required for a Communication Zone Hospital to become fully operational or the time required to begin receiving patients will vary due to the location of the equipment:

Equipment located at Burtonwood Army Depot . . . approximately 28 days.

Equipment stored at facility . . . approximately 20 days.

If equipment established in a "turn-key" configuration at the facility, it is estimated that it will take approximately three days to become operational.

Navy Answer. Prepositioned communication zone hospitals can become operational within days of mobilization, depending on the readiness allowed at a particular site. Dedicated host nation facilities would allow a communication zone hospital to begin receiving patients within 72 hours. Worst case situation in which no host nation support is available would require one Seabee battalion 25 days to be fully operational with patients received in limited numbers in 15 days.

Air Force Answer. Air Force pre-positioned wartime hospitals will become fully operational within 7–10 days. Since essential medical elements (e.g., surgery) of these hospitals will be a "turn-key" operation, casualties can be received as soon as medical personnel arrive from CONUS although non turn-key elements will not be completely set-up. The arriving medical personnel will complete the hospital set-up (e.g., assemble beds for use) within 7–10 days. These medical personnel will be time-phased for deployment to meet the projected casualty workload within operational limitations.

Question. What is the basis of these estimates?

Army Answer. The basis of the estimates is prior wartime experience, and on-site inspection of the facilities to be used.

Navy Answer. The basis for these estimates is our experience gained from the two test sites at Twenty-nine Palms and Bridgeport, CA. and investigation of various overseas sites.

Air Force Answer. The operational set-up time estimate of 7–10 days is based on the anticipated Air Force peak casualty load during the initial days of conflict. This set-up time estimate will be validated with the arrival, on site, of our first 500-bed wartime hospital at ——— U.K.

Question. What is the time phased bed requirements from D-Day in a NATO scenario?

Army Answer. The NATO time-phased bed requirements are as follows: ———.

Navy Answer. The time-phased bed requirements to support a NATO scenario originate from the applicable unified commanders' operation plans which are classified. This information can be provided to the Committee separately, if desired.

Air Force Answer. The Air Force's time-phased bed requirements from D-Day, ———.

Question. What is the basis for these estimates?

Army Answer. USCINCEUR OPLAN 4102, dated 15 February 1980.

Navy Answer. Specific data on the following are used to estimate requirements: admission rates for wounded-in-action, disease, and non-battle injuries casualties; the forces at risk; the evacuation policy; and a dispersion factor to allow for unique morbidity, such as infectious diseases, and geographic dispersion of forces.

Air Force Answer. These estimates were developed by Air Force medical planners in the European theater based upon the current Air Force forces at risk in the theater, upon the latest casualty rates developed by the Rand Corporation, and upon the approved theater evacuation policy now in effect for planning purposes. The projected larger Air Force population at risk in the future drives a higher bed requirement upon which the Air Force program and budget requests are based.

JOINT PLANNING FOR HOSPITAL REQUIREMENTS

Question. According to GAO, the Joint Chiefs of Staff (J-4) Ad Hoc Medical Steering Committee initiated an effort to determine the most economical mix of Service hospital beds in the communication zone via joint service planning of bed use. As a result of this effort, the Services were instructed in the fiscal year 1984-88 Defense Guidance to "plan jointly to procure combat theater assets sized to meet joint, time-phase requirements with emphasis on cross-service sharing." This effort could result in identification of fewer bed needs across all Services. What is the status of this effort?

Army Answer. A working group under the JCS Ad Hoc Medical Steering Committee is preparing a final draft of a study on joint bed sharing in the Communication Zone to meet worldwide operational plans (OPLAN) requirements. Upon completion of the study and acceptance of the recommendation by the JCS Ad Hoc Steering Committee, the report will be briefed to the Defense Health Council for guidance and implementation instructions if the methodology is accepted.

Navy Answer. The JCS Ad Hoc Medical Steering Committee has completed the tasking of joint sharing of communications zone medical treatment facilities in support of a conflict in Northeast Asia and is nearing completion of a similar study in support of a NATO/Warsaw Pact conflict. Upon completion of the NATO study, the committee will address joint sharing in support of a Southwest Asia conflict.

Air Force Answer. The study is nearing completion and should be briefed to the JCS Ad Hoc Medical Steering Committee during September 1982.

Question. What actions being taken, or plan to be taken, to comply with this guidance?

Army Answer. The development of a joint working group consisting of members from the Army, Navy, Air Force, Marine Corps, and JCS that has been tasked to study joint sharing and develop a methodology for determination of Service shares of bed requirements is the first positive step in compliance with the aforementioned guidance. Upon acceptance of the study and methodology by the JCS Ad Hoc Medical Steering Committee, the report will be brifed to the Defense Health Council for their guidance and implementation instructions if they accept the methodology.

NAVY ANSWER. Navy continues to participate in the joint sharing efforts of the JCS and intends to comply with the Defense Guidance.

AIR FORCE ANSWER. Pending the outcome of the study effort and assuming approval of the study group's recommendations, the Air Force will plan jointly with the other Services to meet theater bed requirements. In fact, the Air Force has already initiated discussions with the other Services to make arrangements to share existing and programmed assets in wartime.

QUESTION. Do you envision this effort leading to a centralized system for determining the Services' bed requirements?

ARMY ANSWER. No. Determination of requirements is decentralized since it is the responsibility of a theater commander, for example Commander in Chief, European Command, to determine his requirements to prosecute the missions and national objectives with which he has been tasked to achieve. As a joint commander he must plan jointly in his theater of operations. A centralized system would not permit him to determine or request the resources he deems necessary. This does not mean a common methodology to determine requirements cannot be used from Service to Service and theater to theater. The Joint Operation Planning System Medical Planning Module provides a common tool for planners to use in development of operations plans. This system is available to planners throughout the world.

NAVY ANSWER. Yes. The mechanism currently in place within JCS provides the basis for centralized determination of Services' bed requirements. Within the operating forces, an aggregation of current bed requirements is developed by the unified commander in OPLAN(s).

AIR FORCE ANSWER. Because of the differences in combat roles and missions of the Services, differences in casualty rates, and differences in locations of operating bases, we do not at the present time envision a centralized system for determining the Services' bed requirements. Nevertheless, we expect each of the Services to use the same computer-based methodology for making such determinations.

QUESTION. Explain the different methodologies now used by each Service to estimate bed requirements.

ARMY ANSWER. Bed requirements in support of current operations plans are developed within each theater. The Army's future worldwide bed requirements are developed in conjunction with a computer modeling process called Total Army Analysis. This process is based upon a computer warfight simulation between larger friendly and enemy forces that are expected to exist at the end of the program period. The computer model considers such factors as weapons lethality, battle intensity and forces at risk to develop an incidence of personnel wounded in action (WIA). Admission factors, which are based upon historical data, are then applied by the computer model to the theater population to determine the number of personnel who would require hospitalization for disease and nonbattle injuries (DNBI). Another model utilizes the WIA and DNBI data to determine, in 10-day increments, the total number of beds required to care for Army casualties generated in the appropriate theater of operations.

NAVY ANSWER. The Services basically use the same methodology for determining their requirements.

AIR FORCE ANSWER. The Air Force uses the agreed-upon computer-based modeling technique to determine theater and CONUS bed requirements. This model will soon be incorporated in the Joint Operations Planning System (JOPS) as the single method for specifying bed requirements.

THE ARMY'S GENERAL HOSPITAL PROGRAM

Question. The Army calls its Communications Zone hospitals General Hospitals. Funding for the first four hospitals in this program was started in Fiscal Year 1980 using O&M funds. Last year, the Army told the Committee that "A major revision of the medical assemblage for a 1,000-bed General Hospital by the Academy of Health Sciences, US Army, resulted in significant component changes and increased the total dollar value of the assemblage from $1.5 million to $8.9 million." Therefore, only portions of the total line items for these 1,000-bed General Hospitals were procured. What changes were made?

Answer. The revisions were to accomodate the type and number of casualties and defined level of care anticipated on the modern battlefield. Also, the revision was necessary to incorporate many of the technological advances which have been made in both diagnostic and treatment supplies and equipment. This modernization effort was designed to revise/replace the medical supplies and equipment authorized to the General Hospital based on historical health care doctrine of World War II and Korea. The modernization is both qualitative and quantitative in nature. For example, the D-Day significant item list for drugs, biologicals, reagents developed in the joint arena under the auspices of the Defense Medical Materiel Board (DMMB) is reflected in the new medical assemblage for the General Hospital. Further refinement is being accomplished as D-Day significant items are agreed upon in other categories of medical materiel. Comparisons have also been made with the Air Force 4th Echelon Hospital in an effort to seek commonality among the medical equipment items and expedite the standardization process for the Army.

Question. Provide for the record, by appropriation, how much was expended in fiscal year 1980, 1981, and 1982 for the General Hospital program.

Answer.

[In millions of dollars]

	1980	1981	1982
OMA	8.516	7.361	6.872
OPA [1]	0	0	7.404

[1] The original plan was to procure the medical equipment with OMA appropriation as had always been done in the past when procuring field medical equipment. An OSD ruling, effective 1 Oct. 80, requiring items with a unit cost greater than $3,000 to be purchased with procurement appropriation impacted on this approach. Fiscal year 1982 was the earliest that OPA funding could be obtained to begin buying the capital investment type equipment.

GENERAL NOTE. These dollars are only the medical materiel costs. The Structure and Composition System (SACS) within the Army identifies non medical unit equipment to the appropriate commodity manager for budgeting and procurement. The Surgeon General has only an advisory role for budgeting and procuring non-medical equipment and as such does not maintain detailed cost data.

Question. Also provide, by appropriation, how much is programmed in fiscal year 1983, 1984, 1985, 1986, and 1987 for completion of the procurement of the first three General Hospitals.

Answer.

1983:	*Millions*
OMA	6.214
OPA	3.703

NOTE: Two of the first three are being completed with fiscal year 1982 funds except for shelf-life and deteriorative type items. These items will be placed there in conjunction with the arrival of durable items to insure the longest life expectancy and minimize losses. These funds will procure the additional one hospital plus shelflife and deteriorative type items for all three hospitals.

Question. When will these three hospitals be operationally ready?

Answer. By end fiscal year 1983 the equipment and supplies for these hospitals will be pre-positioned at Burtonwood Army Depot, UK. These units could be operationally ready in approximately 28 days or less, in the event of war.

Question. Is there an approved Table of Organization and Equipment for the Army General Hospital?

Answer. Yes. The currently approved Table of Organization and Equipment (TOE) is TOE 8-303H, dated 21 July 1978. It is the type of equipment (TOE 8-303H) with modernized medical assemblages, which is being prepositioned in Europe.

Question. Is all the Table of Organization and Equipment (TO&E) list being purchased and prepositioned in your current program? If not, list what is and what is not being purchased?

Answer. No. High technology, maintenance intense items are not being prepositioned. In some cases a lessor quantity is being prepositioned to provide some capability.

Less sophisticated X-ray systems are being prepositioned in lieu of CT Scanners and 1200 MA Radiography and Flouroscopy equipment.

Dated and deteriorative items will only be prepositioned once the durable equipment is all inplace, by hospital. Then the unit should be fully prepositioned with both equipment and supplies to include shelflife dated and deteriorative items.

Question. For those items not being pruchased and/or prepositioned, state how the Army plans to provide those items to the unit in the timeframe they will be required.

Answer. Initial capabity is being provided. High technology, state-of-the-art type items are being reviewed for providing post M-Day support, via commercial sources.

Question. Is the Army revising the TO&E for the 1000 bed General Hospital? If so, when will the revision be completed?

Answer. No, however, biannual updates are conducted to modify TOEs as necessary. The major emphasis to date has been in the medical sets to operate the hospital. It is perceived that the major impact of this revision in the medical sets will be an increased requirement for power generation equipment.

Question. What date was the TO&E approved by the Army for use?

Answer. The current TO&E 8-303H was approved 21 July 1978. However, the medical materiel reflected historical doctrine as noted in Insert number 21.

Question. What types and quantities of hospitals does the Army have programmed for procurement in fiscal year 1983, 1984, 1985, 1986, and 1987?

Answer.

	1983	1984	1985	1986	1987
Type hospital:					
General	[1] 3	[2] 3	9	10	6
Field hospital	1	1	1	1	0
Evacuation hospital	4	4	3	8	4
Mobile army surgical hospital	3	2	2	5	6
Combat support hospital	0	0	0	2	2

[1] Started in fiscal year 1981/82.
[2] 1 started in fiscal year 1981/82.

Question. What funds are programmed, by appropriation, in fiscal year 1983, 1984, 1985, 1986, and 1987 for each type of Army Deployable Hospital.

Answer. The following represents TSG's total program to equip the field medical force:

[In millions of dollars] [1]

	Fiscal year				
	1983	1984	1985	1986	1987
OMA	53.1	59.6	84.2	91.2	72.6
OPA [2]	19.8	45.5	60.7	70.7	42.7
OPA [3]	19.2	17.5	20.7	41.6	91.8
Army stock fund war reserve [4]	0	7.2	14.7	65.9	52.7

[1] Dollar amounts represent totals by appropriation for all field medical equipment and specific non-medical (OPA) equipment for deployable hospitals. Budget lines for medical equipment are maintained by appropriation and not be specific unit type. For example, OPA, Combat Support Equipment, Medical is used for all field medical equipment with a unit cost over $3,000 some of which is common to hospital units as well as other field medical units. Funding shortfalls and changing priorities within DA preclude programming/budgeting by specific unit type in most cases.

[2] Combat Support Equipment, Medical.

[3] Combat Zone Hospital Equipment line for shelters and power generation equipment. Vehicles and other non-medical equipment programmed by various commodity managers in other budget lines in accordance with the Structure and Composition System (SACS) authorizations.

[4] Procures medical equipment for operational projects, initial equipment which is stored in CONUS depots for Reserve Component Units and durable medical equipment for the expansion of the hospital CONUS base.

Question. According to GAO, the cost of an Army General Hospital is $20.5 million. Of this amount, $11.3 million is for medical equipment and supplies. Provide a breakout of the remaining costs.

Answer. The remaining costs include:

	Millions
Non-medical: Vehicles, Weapons, Food preparation center, Lights, Communication equipment and Refrigerators	$4.3
Generators/environment control system	3.0
Medical—high technology items	1.9
Total	9.2

Question. The GAO reported that no detailed site surveys have been performed for any of the General Hospitals. What amounts are funded in fiscal year 1983, 1984, 1985, 1986, and 1987 for architectural and engineering studies?

Answer. The following funds are programmed by Fiscal Year for engineering site surveys of United Kingdom (UK) hospital contingency sites.

Fiscal year 1983—$20,000.
Fiscal year 1984—$10,000.
Fiscal year 1985—$10,000.

Question. How long after site surveys are completed will firm cost estimates and logistics plans be available for review by the GAO?

Answer. Site surveys have been completed at RAF Cosford and Hereford during fiscal year 1982. Firm cost estimates and plans should be available approximately eight to ten months after site surveys are complete, allowing time for review by all countries and Army elements concerned.

Question. The GAO reported that the Army requires from the United Kingdom 91 railroad cars, 14 trailers, and 245 skilled workers to establish a General Hospital. If we went to war today, do we have signed agreements that furnish such services?

Answer. The statement of requirement (SOR) for the United Kingdom (UK) was recently updated and resubmitted to the UK on 15 April 1982.

Question. If not, what are the Army's current plans that assure that those hospitals in Burtonwood can become operational in the time frame required?

Answer. The Army intends to identify infrastructure storage space and forward deploy as much of the hospital equipment as space and HNS agreements will allow, in order that all hospitals may become operational in the time frame required.

Question. Many of the hospital sites made available to the Army to set-up its hospitals at the time of war, are being used by others during peacetime for other than medical purposes. How can the Army possibly make the necessary modifications to turn these facilities into hospitals in a relatively short period of time?

Answer. The programmed engineer site surveys will identify the necessary modifications needed to operate a hospital in wartime. Certain countries will allow peacetime modifications at the sites. By identifying forward deployed storage sites and where possible placing equipment in turn-key configuration, the time for establishment of hospitals will be greatly reduced.

Question. According to GAO, the Army has stored two 1,000-bed general hospitals at a central depot in Europe since 1971. Although the hospital sets appear to be intact, excluding short shelf life items, they have not been opened for inspection or upgraded, and contain items which have exceeded their originally designated shelf life. In view of the lack of attention given to the two old hospitals sets and the large additions to be made to the stock of hospital sets stored at this facility, we are concerned about Army's plans to keep the hospital sets up-to-date and in a ready state. What actions does Army plan to take to make sure that all hospitals stored at its European site are kept up-to-date and in a ready state?

Answer. Lack of personnel resources was the major cause for this situation. This situation was documented by the Army, as well as outside audit agencies. To correct this, additional medical logistical personnel (142 spaces) were provided Europe in fiscal year 1980. Additional spaces were identified with the General Hospital initiative (15 spaces). Army Guidance for fiscal year 1984–1988 requested USAREUR to review their resource requirement for 5 years. Minimum maintenance is required once materiel is placed in a long term storage at Burtonwood Army Depot. Funding is now programmed beginning in fiscal year 1985 to upgrade modernized medical assemblages presently stored in Europe.

Question. With regard to the fiscal year 1983 request, has the Army budgeted funds to procure complete hospital units, or will it procure equipment to the extent budgeted funds will allow?

Answer. The funds budgeted in fiscal year 1983 for General Hospitals is intended for us in the completion of five of the six hospitals which were started with fiscal year 1980 and fiscal year 1981 funds. Two of these hospitals will require only the shelflife and deteriorative items as noted in Insert number 23.

ARMY'S COMBAT ZONE HOSPITAL EQUIPMENT

Question. The Army's budget includes $19.2 million for the procurement of Combat Zone Hospital Equipment (CZH), and $19.8 million for Combat Support Equipment—Medical. These funds procure shelters and medical equipment for combat support hospitals, evacuation hospitals, and Mobile Army Surgical Hospital (MASH). Describe this equipment.

Answer.

	Millions
a. Combat zone hospital equipment (CZH):	
Electrical generator/environment control system	$6.5
Tent, extendable, modular, personnel, six section	3.7
Shelter, tactical, one-sided expandable	6.7
Tent, extendable, modular, personnel, two section	2.3
Total	19.2
b. Combat support equipment—medical:	
Replacement and table of organization and equipment shortages of medical equipment in field medical units	1.0
Modernization of selected medical components in field medical units	9.7
POMCUS medical investment equipment	9.1
Total	19.8

Question. How does it compare to the problem-plagued MUST systems?

Answer. Problems experienced in the MUST system were with non-medical items developed uniquely for the MUST program.

Items being procured are Department of Defense approved and in use throughout DOD by all units, medical and non-medical. These replace similar components of Combat Zone Hospitals (Mobile Army Surgical Hospitals, Combat Support Hospitals and Evacuation Hospitals) which were standardized in the Department of the Army supply system as a result of the MUST program. The medical equipment represents items which has been standardized within the DOD supply system.

Question. How many MUST systems does the Army have in its inventory, and how many will be replaced by CZH?

Answer. Currently there is one Mobile Army Surgical Hospital, 16 Combat Support Hospitals and one Evacuation Hospital totally equipped with materiel developed under the MUST program. In addition, 41 Combat Zone Hospitals in the Active Army and Reserve Components are partially equipped with MUST program materiel for use in training. All materiel acquired under the MUST program will be fully utilized until no longer serviceable. New materiel which is standard in the DOD supply system is required in fiscal year 1983 to equip additional Combat Zone Hospitals in the Department of the Army approved force structure.

Question. Does the Army intend to use this for RDF? How does it compare to the 250 bed RDF hospitals that the Navy is buying?

Answer. Hospital support to the RDF-Army is the same as in any other Combat Zone utilizing Combat Support Hospitals, Evacuation Hospitals and Mobile Army Surgical Hospitals. The Navy has used the Evacuation Hospital as a basic reference in developing their Combat Zone hospitals. A comparison is currently being made by DOD and joint Standardization Committees.

Question. When was the CZH approved for service use?

Answer. The term "Combat Zone Hospital" is a generic description used as a roll-up line for all hospitals utilized in the Combat Zone. The approval dates for the latest versions of Combat Zone Hospitals are as follows:

Mobile Army Surgical Hospital (TOE 08-63H)—July 1981.

Combat Support Hospital (TOE 08-123J)—October 1981.

Evacuation Hospital (TOE 8-581J)—October 1981.

Question. One of the major problems with MUST was the set-up time. How long will it take to set up each of the CZH configurations? Who will set it up? When was the set-up time demonstrated?

Answer. The time required to erect the Combat Zone Hospitals is as follows: Mobile Army Surgical Hospital—10 to 12 hours; Combat Support Hospitals—12 to 16 hours; Evacuation Hospitals—16 to 18 hours.

The hospitals will be set up by personnel assigned organic to the hospital.

Set-up time was demonstrated during a test of the Mobile Army Surgical Hospital conducted at Fort Hood, Texas, several years ago. Set-up time is demonstrated routinely by existing units during training exercises.

Question. How many of each type of hospital will be procured in fiscal year 1983?

Answer. Three Mobile Army Surgical Hospitals (Combat Zone); four Evacuation Hospitals (Combat Zone).

Question. What will be the total cost of each type of hospital including the medical equipment and shelters?

Answer. Estimated total cost of all medical and non-medical equipment and supplies are as follows: Mobile Army Surgical Hospital, $8.1 million; Evacuation Hospital, $20.4 million.

Question. How is the M/51 chemical protective used with the CZH units. How are CZH's protected against chemical agents?

Answer. The M-51 chemical protective shelter is used in the Battalion Aid Station and the Clearing Station in a Division. There is no collective protection for Combat Zone Hospitals.

Question. Where will these hospitals be put when they are delivered?

Answer. Hospitals' equipment and supplies will be pre-positioned at or near the site of potential use or issued to active units for storage, maintenance and use in training.

Question. Why have you chosen to use tents rather than hard shelters for the CZH?

Answer. A combination of rigid wall (hard) shelters and fabric wall (tent) shelters are used in each of the Combat Zone Hospitals. This mix of shelters affords the essential environment for each functional component at the least cost.

Question. The medical equipment line goes from $9.0 million in fiscal year 1982 to $19.8 million in fiscal year 1983, and then jumps to $55.7 million in fiscal year 1984. Why is this rapid increase?

Answer. Prior to fiscal year 1981 items of field medical equipment were procured using OMA funds. Effective 1 October 1980, Department of Defense directed that all investment items (over $3,000 unit cost) would be procured with OPA funds. The AMEDD was able to obtain the $9.0 million for 1982 but it wasn't until the fiscal year 1983-87 POM that opportunity presented itself to identify total requirements. The steep ramp from fiscal year 1983 to 1984 reflects our accelerated effort to equip/modernize the Army's field medical force.

AIR FORCE COMMUNICATION ZONE HOSPITALS

Question. To be operational when hostilities begin, the Air Force plans to set up its communication zone hospitals in peacetime at the operational site. However, according to GAO, if Air Force is unable to locate and reach agreement on sites with enough buildings to house its hospital, warehouse space may be required for peacetime storage.

At how many locations does the Air Force anticipate that warehouse space will be needed?

Answer. All except one (PACAF) of the programmed Air Force communication zone hospitals through 1984 have warehouse space identified in existing buildings. Programmed Air Force hospitals from 1984 to 1988 may need warehousing at approximately 11 locations. However, we are still trying to obtain existing buildings where possible.

Question. What costs are anticipated for this warehouse space?

Answer. $35,400,000.

Question. How much time is needed to make an Air Force hospital operational which has not been set-up in peacetime?

Answer. Unknown. We have not determined a time frame for complete set-up of a communications zone hospital since the Air Force is focusing on Host Nation support and buildings of opportunity. In the absence of Host Nation support and buildings of opportunity, warehouse space may be required for peacetime storage. Programmed Air Force hospitals from 1984 to 1988 may need warehousing at approximately 11 locations. However, we are continuing our effort to obtain existing buildings where possible.

Question. While the Air Force has made steady progress in developing its contingency hospital program, the design, configuration and set-up of the hospitals has never been tested. What are Air Force plans to test:

The time required to make the hospitals fully operational?

The hospital design and equipment to show that it is appropriate for warehouse use?

The personnel needed to operate the hospital?

Answer. The time required to make the hospitals fully operational is 7–10 days—critical care areas will be in a turn-key operation, i.e., surgery, x-ray, lab. This set-up estimate will be validated with the arrival, on site, of our first 500-bed wartime hospital at ——— and revalidated with all subsequent deliveries of wartime hospitals. As to hospital design and equipment to show that it is appropriate for warehouse use, exclusive site pre-survey testing will be conducted during initial set-up at ——— and on-going testing for each hospital. Regarding personnel needed to operate the hospital, we will continue to use the Tri-Service wartime manpower computer models and data based at the Academy of Health Sciences, Fort Sam Houston, Texas for determining and refining manpower requirements. Various specialty consultants to the Surgeon General, USAF, will continue to review and validate the computer generated manpower requirements for adequacy and suitability.

MARINE CORPS FIELD MEDICAL/DENTAL EQUIPMENT

QUESTION. The Procurement, Marine Corps budget includes $4.6 million for the procurement of field medical and dental equipment. No funds were requested for this purpose last year, and only very small sums are projected for fiscal year 1984 and beyond.

What is the reason for this one-time procurement?

Admiral Cox. This is a continuation and completion of a three-year plan to revise and update the authorized medical allowance list. Fiscal year 1980 funded $2.0 million of the requirement, fiscal year 1981 funded $1.1 million, fiscal year 1982 buy was cancelled due to higher priority override, and the $4.6 million in the current budget projections are intended to fund the cancelled fiscal year 1982 buy. Since the $4.6 million will complete the three-year procurement, funding in fiscal year 1984 and beyond is for the purpose of maintaining equipment readiness.

QUESTION. How does this equipment differ from field medical equipment procured by the Army?

Admiral Cox. The organic Marine Corps equipment has not been compared with Army equipment; however, the USMC purchases are made from the Federal Stock Lists. It is my understanding that the majority of Army equipment is procured from the same source.

Question. No funds are included in the cost breakdown for shelters for this equipment. What kind of shelters will be used?

Admiral Cox. Marine Corps medical units use standard Marine Corps shelters which are included in the shelter systems approved by the Joint Committee on Tactical Shelters.

Question. How do they differ from those of the Army?

Admiral Cox. It is my understanding that the Army also uses the Joint Committee approved shelters.

Question. Where are they budgeted, and how much is included in fiscal year 1983 for their procurement?

Admiral Cox. The shelters to be used by medical units are not budgeted separately; they are included in the O&M, MC budget along with all Marine Corps Shelter requirements.

Question. The Navy's budget includes $74.3 million for RDF hospitals which are dedicated to Marine Corps requirements. How do you distinguish between what the Navy funds, and what the Marine Corps funds, and why is there a difference?

Admiral Cox. The Marine Corps funds all medical requirements organic to the Marine Corps at the Marine Amphibious Force level or below. The Navy funds those medical systems treating patients above the level of the medical capability fighting forces to the USMC.

This difference in funding recognizes explicit division of medical tasking and ensures unit cohesiveness in the USMC organic, and Navy support units.

MEDICAL R&D CONSOLIDATION

Question. The Services are in the process of consolidating research in infectious diseases, with the Army designated as the lead service. Please describe the status of these efforts.

Dr. **Beary.** A plan for consolidation of infectious disease research has been developed by the Army in consultation with the Navy.

Question. Has a consolidation plan been approved? If not, what remains to be done and when is approval expected?

Dr. **Beary.** The consolidation plan was approved by Dr. Edith Martin, Deputy Under Secretary of Defense for Research and Engineering (Research and Advanced Technology) on 2 August 1982.

Question. What is the specific date for full implementation of that plan?

Dr. **Beary.** The consolidation plan will be fully implemented beginning 1 October 1982, with implementation complete by the end of fiscal year 1984.

Question. Is this consolidation in infectious disease research reflected in POM 84 funding?

Dr. **Beary.** Yes.

Question. Is it reflected in the fiscal year 1983 budget submitted to the Congress? If not, what adjustments are required?

Dr. **Beary.** The fiscal year 1983 budget as submitted reflects a transfer of funds from Navy to Army to support the consolidation. However since the figures utilized were based on preliminary estimates, minor adjustments are necessary to restore approximately $1.2 million to Navy RDT&E programs. Detail has been separately informally provided to the Committee staff.

Question. The Services are consolidating dental research, with the Navy as lead service for dental disease and dental emergency, and the Army as lead for combat dentistry. Please describe the status of these efforts.

Dr. **Beary.** The Under Secretary of Defense for Research and Engineering, Dr. Richard DeLauer, has designated the Navy as responsible for all Defense-conducted R&D directed at dental disease and non-combat dental emergencies. The Army, working with the Navy has developed a consolidation plan for combat dental research.

Question. What is the state of preparation of consolidation plans?

Dr. **Beary.** Since the Navy already was the sole service conducting dental disease and dental emergencies research, no specific plan is required. The plan for consolidation of combat dental research was approved on 2 August 1982.

Question. What are the specific dates for full implementation of these plans?

Dr. **Beary.** The combat dental research consolidation will be fully implemented beginning 1 October 1982 with implementation to be complete by the end of fiscal year 1984.

Question. Are these consolidations in dental research reflected in POM 84 funding?

Dr. **Beary.** Yes.

Question. Are they reflected in the fiscal year 1983 budget submitted to the Congress? If not, what adjustements are required?

Dr. **Beary.** The fiscal year 1983 budget as submitted reflects a transfer of funds from Navy to Army to support the consolidation of combat dental research. However since the figures utilized were based on preliminary estimates, minor adjustements are necessary to restore approximately $0.7 million to Navy RDT&E programs. Detail has been separately informally provided to the committee staff.

Question. Last year we noted that dental research was being carried out in several locations and asked whether a single facility would not be better. We also asked whether the Army and Navy could not share a single facility. The Department responded that these questions were being addressed by the Armed Services Biomedical Research Evaluation and Management (ASBREM) Committee. What conclusions has ASBREM reached on these questions?

Dr. **Beary.** The ASBREM's Joint Techology Coordinating Group (JTCG) on Combat Dentistry examined the feasibility of a single facility to conduct dental research and of sharing such a facility by the Army and Navy. The JTCG report dated 14 September 1981, considered the present Army Institute of Dental Research, the Naval Dental Research Institute and the dental and research facilities at the Naval Medical Reserach Institute as well as the approximately 8000 ft^2 in the renovated National Naval Medical Center to which reference was made last year. The report, which has been accepted by ASBREM concluded that none of these facilities is adequate to accomodate the present dental research activities of the two services.

Question. Is the Army taking any action on relocating to a single facility?

Dr. **Beary.** Yes. The Army Medical Research and Development Command is currently seeking to relocate the Institute of Dental Reserach. The Institute, currently housed in three seaparate locations would be moved to a single facility, formerly part of the recently-closed Public Health Service Hospital on the Presido of San Francisco.

Question. Does closer integration of Army and Navy activities appear feasible? What steps are contemplated in this regard?

Dr. **Beary.** Closer integration of combat dentistry, as well as of their medical resarch efforts is an objective of the ASBREM process. Although no specific relocations are currently planned, the intent of ASBREM is to take advantage of opportunities for program intergration, to include cross Service staffing and joint utilization of medical research facilities.

MEDICAL R&D: COMBAT CAUSLATY CARE

Question. Another area of medical R&D is Combat Casulty Care, which encompasses a variety of subject areas and a very large number of individual projects. Questions have been voiced over possible duplication in some of these projects, and whether the lead service concept may be applicable to at least some of the sujbect areas being studied. Department representatives hold that the lead service approach need not be applied to Combat Casualty Care, and that adequate management control can be execrised by the ASBREM. In April 1982, a joint Services review of the Combat Casualty Care program was held, under the auspices of ASBREM. Why is a lead service approach inappropriate for at least some parts of Combat Casualty Care? What is service-unique about research in such areas as Cold Injury, Wound Sepsis and Substance Abuse?

Dr. **Beary.** A lead service approach may well be appropriate for parts of the combat casualty care program where needs are common among the Services, and where one Service predominates in terms of expertise and resource investment. The ASBREM has begun to review Service programs, and where appropriate will designate Service leads for portions of the programs. The ASBREM will also, perhaps more importantly, encourage integration of programs across Service lines. Then ASBREM guidance in this respect will be matter of continued interest by the DUSD (R&AT) who has overall cognizance of the medical and life sciences RDT&E program.

In general, there is no service-uniqueness to such research areas as cold injury, wound sepsis, or substance abuse. However, within each area, service concerns may vary; for example, hypothermia may be a more common form of cold injury in the Navy than the Army, where frost bite and its sequelae may be of major concern. In the area of substance abuse, it should be noted That there is currently no RDT&E program per se in this area. Should it become desirable to conduct formal R&D in this area, my office will work closely with DUSD (R&AT) to insure a unified approach to the task.

Question. The April 1982 review by ASBREM covered 102 individual projects. How many of these were judged to be duplicative or potentially duplicative? What actions have been taken based on those judgments

Dr. **Beary**. Of the 102 topics and/or end items reviewed, 13 were judged to be potentially duplicative and 2 as duplicative. In the latter two cases, the Services have directed termination and/or redirection of the research efforts involved. The JTCG is continuing to resolve the "potentially duplicative" items with the investigators involved. Investiagators have been instructed to collaborate and coordinate research efforts across service lines.

Question. The Army has been funding projects in blood research. The April 1982 review showed that more than half (5 out of 9) were duplicative or potentially duplicative with Navy projects. What steps have been taken to correct this situation?

Dr. **Beary**. In the single instance where an Army and a Navy blood research effort were judged duplicative, the Navy has directed termination of its effort. The other four topics at issue as potentially duplicative, are currently being resolved by the JTCG.

Question. What are the pros and cons of designating the Navy as lead service for blood research?

Dr. **Beary**. At the moment, the Army and Navy blood research programs are with only minor exception complementary. The skills, resources, and techincal goals of each are different. Designation of one or the other as lead agency could not be expected to result in any substantial economies, assuming the total program scope remained the same, although some management efficiencies could result from designation of a single program manager. Designation of a lead service at this time would unnecessarily preempt the ASBREM process, and would fragment management of the Combat Casualty Care Program.

Question. The Army has programmed a very large sum—$10 million—for fiscal year 1984 blood research, apparently for work in stroma-free hemoglobin.

Describe this work, its expected benefits, its relationship to current Navy research, and how its cost was estimated.

Dr. **Beary**. This research effort is advanced development of an oxygen carrying resuscitative fluid for battlefield care that does not require refrigeration, has a shelf life of months, if not years, and markedly reduces the logical burden required for whole blood. Both the Army and Navy have developed different preparations of stroma-free hemoglobin. (It should be noted that the Navy preparation results from funding a former Army contractor.) The JTCG has recommended that all candidate preparations be evaluated by Army and Navy. At a decision milestone during fiscal year 1983 the Army will select the best preparation for advanced development. The cost was estimated on the basis of previous experience in developing other biologicals and on estimates from three pharmaceutical companies. Although the Army has programmed $10 million in the Army fiscal year 1984 POM, based on current cost estimates the submitted budget for fiscal year 1984 will be less.

Question. Has this proposed work been subjected to independent scientific review?

Dr. **Beary**. The proposed work has been independently reviewed for scientific merit by the Heart, Lung and Blood Institute of the NIH. It has also been reviewed for scientific merit by a subcommittee of civilian experts who advise the USAMRDC. in addition, the effort has been coordinated with, and approved by, the DOD Blood Program Office.

Question. Has it been reviewed by Navy blood researchers?

Dr. **Beary**. This effort was reviewed in detail with the Navy and Air Force at the JTCG meeting on which the Combat Casualty Care report was based.

Question. Has it been reviewed by the ASBREM Committee?

Dr. **Beary**. The ASBREM Committee has reviewed and approved the report.

Question. What is the total expected cost of this research?

Dr. **Beary**. Advanced and engineering developmenmt costs over the Five Year Development Plan are estimated to total approximately $60 million. This cost includes a system of pyrogen free water to reconstitute the lyophylized preparation of stroma-free hemoglobin.

MEDICAL R&D ASBREM

Question. The Armed Services Biomedical Research Evaluation and Management (ASBREM) Committee was formed last year to exercise oversight and control of medical R&D activities throughout DOD. Does ASBREM appear to be meeting its goals?

Dr. **Breary**. Yes. The ASBREM has been in existence only 15 months. It is too soon to judge its ultimate worth. However, under ASBREM guidance:

a. A mechanism, the Joint Technology Coordinating Groups (JTCG), has been developed and implemented to manage the various DOD medical RDT&E research thrusts.

b. Each JTCG has developed a charter, has met and reviewed the research programs of the Services relating to each thrust area.

c. Issues of non-relevance and duplication have been identified and corrective measures have been implemented.

Question. What specific actions can you attribute to ASBREM regarding elimination of duplication, encouraging of better coordination and cooperation among researchers and their organizations, or better control of expenditures?

Dr. **Beary**. The ASBREM Committee established the system of JTCG with management oversight responsibilities to eliminate nonrelevance and duplication, if present. Through the same mechanism, the tri-Service members of the JTCG provide the stimulus for, and interface between, researchers of the DOD-wide medical R&D community. As a result of ASBREM, the services are beginning to make program changes reflecting greater intergration.

Question. How is ASBREM ensuring a proper distribution of efforts between service-specific and common requirements? How is a given requirement evaluated to determine whether it is service-specific or common?

Dr. **Beary**. Service requirements for medical research are generated independently by each Service; hence, the ASBREM committee cannot ensure "proper distribution" between Service-specific and common requirements. However, Service requirements are evaluated at the JTCG level where specificity or commonality will be identified.

Question. Does ASBREM review those portions of DoD's chemical warfare program which are related to medical matters? If so, what is ASBREM's position on the services' ability to spend very large funding increases in these programs in efficient and effective ways? If not, why not?

Dr. **Beary.** Yes. The U.S. Army Medical Research and Development Command has been appointed Executive Agent for Medical Chemical Defense for the DoD. The ASBREM Committee has established a JTCG on Medical Chemical Defense and has reviewed the DoD program and found no evidence of non-relevance or duplication. Neither did they discern inability of any of the Services to execute their portion of the program in an efficient and effective manner. The ASBREM will continue to monitor the on-going JTCG review, and if requirements, resources, and technical capabilities are found to mismatch, will recommed adjustments.

MEDICAL R&D: AFFRI

Question. Medical R&D is conducted by the Armed Forces Radiobiology Research Institute (AFRRI), as subordinate command of the Defense Nuclear Agency, AFRRI's mission is to conduct research on the effects of radiation on living organisms, and related operational and medical support matters. A GAO report dated May 24, 1982, finds that AFRRI is being poorly managed, particularly in the management and control of its automatic data processing (ADP) resources. Are AFRRI activities reviewed by OSD? Are they reviewed by ASBREM? If not, why not?

Dr. **Beary.** AFRRI activities are reviewed by OSD as part of the medical and life sciences RDT&E program. ASBREM has not yet reviewed the AFRRI program, but will do so as part of the JTCG reviews to begin next fiscal year. The AFRRI program will constitute the majority of the ASBREM JTCG on Ionizing Radiation Bioeffects, as well as being represented in the Combat Casualty Care JTCG.

Question. AFRRI has ADP resources because these are needed to support research projects. GAO says those ADP resources are ill-planned, inadequately justified, and greatly under-utilized. What conclusions can we draw about the planning, justification, and productivity of the research projects themselves?

Dr. **Beary.** The General Accounting Office has worked with AFRRI and has pointed out seveal areas related to ADP support management that are being addressed by a 5 year ADP master plan. However, while a backlog of certain ADP requirements does exist, there is no direct correlation between ADP support and all biomedical research productivity. Significant, mission related research is continuing to be conducted under the direction of the 5 year research plan as approved by the AFRRI board of governors in December 1981.

Question. Provide for the record a detailed breakout of AFRRI's budget for fiscal year 1982 and fiscal year 1983. Show program elements and specific budget line items for all items in excess of $100 thousand.

Dr. **Beary**. Program Element 62715H, Project U, includes AFRRI budget and planning levels of $10.2 million for fiscal year 1982 and $10.7 million for fiscal year 1983. The following is a breakout of the project:

[In millions of dollars]

	Fiscal year—	
	1982	1983
Nuclear weapons effects education	.1	.1
Degradation of performance decrement	3.7	3.3
Prevention and treatment of radiation effects	4.2	3.9
Dosimetry	.9	.9
Technology base	1.3	2.5
Total	10.2	10.7

SHIFTING A SIGNIFICANT PORTION OF THE CHAMPUS WORKLOAD TO THE DIRECT CARE SYSTEM

Question. During our reprogramming hearing on CHAMPUS, on June 23, the Director of CHAMPUS stated that Dr. Beary is committed to shifting a significant portion of the CHAMPUS workload to the direct care system to reduce government spending. It was stated that Dr. Beary is taking action to limit the use of CHAMPUS in specific areas and has asked the services to review the situation and respond by July 15, suggesting other alternatives that may be appropriate. He advised the Secretary on June 25th, just two days after our CHAMPUS hearing, that immediate steps must be taken to deal with the increase in utilization but at the same time not decrease beneficiary satisfaction since it is an important military retention benefit.

Dr. Beary, since you have asked the Services to review the situation and respond by July 15th, suggesting other alternatives that may be appropriate, what are the results of that review by each service?

[Clerk's note: The information was not received in time to be printed in this hearing volume.]

Question. Dr. Beary, you testified before the Senate Military Manpower and Personnel Subcommittee that you aim to eliminate the needless duplication of facilities, equipment, and services within the military health care system.

Occupancy rates of many military facilities are less than the national minimum standards of 80 percent occupancy. It is true that the occupancy rates are informative only when interpreted in light of the location, mission, size, and to some extent, the supported population of the health care facility. Nevertheless, the hearings of last year reveal that there were over 100 military facilities below the national minimum standards of 80 percent occupancy. 47 of these facilities were in the 60s and below percentage occupancy rates. Dr. Beary, with the low utilization of some of these facilities, have you looked into the possibility of closing some or else permitting greater use by retirees and their dependents in lieu of CHAMPUS?

Dr. Beary. Our aim at this time is to better utilize, not close, the facilities in the direct care system by shifting CHAMPUS workload into the military hospitals.

CHAMPUS COST-SHARING

Question. Dr. Beary, a CHAMPUS beneficiary is responsible for the first $50 of CHAMPUS-determined "reasonable cost" charges for covered outpatient services and supplies during any fiscal year (October 1 through September 30). The total outpatient deductible amount for two or more beneficiary members of the same family who submit claims during the same fiscal year is $100.

Have there been changes in the outpatient and inpatient cost-sharing (co-payment) arrangements for active duty spouses and children and for other than active duty spouses and children in the last four years?

Dr. Beary. Yes. The daily inpatient charge for dependents of active duty personnel has increased annually.

Question. In the July 15th issues of U.S. Medicine, it is stated that based on this year's experience, CHAMPUS has estimated that it will run $360 million short of what it is budgeted to receive in fiscal year 1984 under the DOD Program Objective Memorandum (POM) covering years 1984 through 1988. DOD officials, have estimated CHAMPUS actually might need about $250 million over what is in the POM for fiscal year 1984. To help finance some of these ever increasing medical costs, don't you think the Department should take the initiative to recommend legislation which would require the beneficiaries to pay a greater deductible instead of having the taxpayers pay these increasing health bills?

Dr. Beary. We are attempting to contain costs through management efficiencies in both CHAMPUS and the direct care system, and by continued exploration of innovations in health care delivery and payment. Our goal is to contain the program's growth so as to negate the need for increases in deductibles or co-payments.

Question. If the $50 deductible (CHAMPUS Program) had been tied percentagewise with increases of the CPI since the $50 deductible was originally put in place, what would the deductible currently be?

Dr. Beary. $145.00.

Question. If the $50 deductible had kept up with increases, percentagewise, in military wages, what would the deductible currently be?

Dr. Beary. Using a weighted average of pay raises by category (i.e., officers, enlisted, retirees) the deductible would be $166.00.

Question. Given either of those two, CPI or military wage increases, what would the savings be in fiscal year 1983 if the deductible were raised to either of those two levels?

Dr. Beary. The savings realized would be about $72 million if tied to the CPI and $88 million if tied to pay raises.

CHAMPUS IN KOREA

Question. The Defense Audit Service has found that families of American soldiers stationed in Korea who have been treated in Korean hospitals under the CHAMPUS program have, on occasion, had to be treated later at U.S. military hospitals because of infections they contracted at Korean facilities. It goes on to say that CHAMPUS may have paid hundreds of thousands of dollars for poor quality care in these Korean hospitals since at least 1980.

Federal regulations require that CHAMPUS certify as adequate any civilian health care facility used under the program. - CHAMPUS and Army medical officials agreed with the Defense - Audit Service findings and recommendations—that military medical -officials should act to assure that Korean hospitals used by military family members under CHAMPUS are adequate. It was stated that all the officials indicated that someone else will have to help, that they couldn't do it alone, and DAS told the officials that, in effect, if you can't do it alone, do it together.

Who's responsiblity is it in Korea to visit selected Korean hospitals near U.S. bases to determine whether or not they are sanitary and satisfactory?

Dr. Beary. While the responsibility for certifying the adequacy of facilities used under the CHAMPUS program rests with the Director, OCHAMPUS, we have requested that the Commander-in-Chief, Pacific (CINCPAC), provide some assistance through the U.S. Army Medical Command, Korea.

Question. In 1980, the occupancy rate in the Army hospital in Korea was 76 percent—4 percent under the national minimum standards of 80 percent occupany. During that same period, 591 nonavailability statements were issued by the U.S. Army hospital in Korea.

With the large number of nonavailability certificates issued by Army medical officials in Korea to dependents and the 76 percent occupancy rate, does this accurately reflect the availability of appropriate medical care in the Army's medical facility?

Answer. Occupancy rates and number of nonavailability statements issued in a particular facility are not necessarily related. When demand for a specific specialty exceeds the military treatment facilitiy's ability to provide the service, nonavailability statements are issued in that specialty. Nonavailability statement issuance, therefore, is often a reflection of lack of capacity in certain specialty areas in which there is high demand. This does not affect general hospital occupancy. Although the total number of nonavailability statements issued in Korea decreased from 591 in fiscal year 1980 to only 387 in fiscal year 1981, the occupancy rate during this period dropped three percentage points.

Approximately 63 percent of the nonavailability statements issued in Korea in calendar year 1981 were issued for maternity care. This is clearly an area in which the capacity of the military medical treatment facility cannot meet demand in Korea.

Question. Are you issuing certificates even when the patient could actually be accommodated in the military facility?

Answer. Nonavailability statements are issued in accordance with strict guidelines established by DoD(HA). The guidelines permit nonavailability statement issuance for reasons other than the nonavailability of required care in a military treatment facility within 40 miles of the patient's residence. These other reasons for issuance include excessive waiting time for admission, continuity of care, personal hardship, and disagreement between a civilian and military physician concerning diagnosis or treatment.

MILITARY TREATMENT FACILITY SIZING LAW

Question. General Chesney, you state in your statement that "with the military treatment facility sizing law requiring facility construction based on the workload associated primarily with active duty personnel and their dependents, the Services are not allowed to account for a large portion of their beneficiaries. In the case of the Air Force Medical Service, approximately 50 percent of its beneficiaries are retired members, their dependents and survivors." General Chesney, what is your recommendation with respect to inadequately sized treatment facilities—should the law be changed so that retired members, their dependents and survivors could use medical facilities? Do you believe it would be less expensive?

Answer. The sizing law should be changed so that the total beneficiary population is included in any determination of facility requirements. Facilities' limitations currently hamper our ability to meet peacetime and readiness health care requirements. With appropriately sized and staffed facilities, we will enhance our readiness capability and reduce our dependence on the CHAMPUS program to meet the basic health care needs of our beneficiary population. This would lead to a less costly, more effective health care system.

HEALTH CARE OF DEPENDENTS AND RETIREES

Question. It has been reported that, for the first time, the Department of Defense has made health care of dependents and retirees part of its official public mission.

The Department of Defense said the mission statement was written specifically for the Office of the Assistant Secretary of Defense for Health Affairs, but it applies to the services' medical departments. It has been approved personally by the Secretary of Defense.

Dr. Beary, would you and the Surgeons General comment on this mission statement? Please make a copy of the mission statement available for the record.

Dr. BEARY. The mission statement follows:

"The mission of the Office of the Assistant Secretary of Defense for Health Affairs is to act as the principal OSD staff element to achieve a healthy fighting force, supported by a Defense Health System prepared for combat and providing a quality health benefit, and to do all of this at the least possible cost consistent with the above goals."

The mission statement recognizes the primary responsibilities of the Defense Health System.

1. To achieve and maintain a healthy active duty force.
2. To maintain a health system which is prepared for combat.

3. To ensure that our beneficiary population receives quality care (both in-house and through CHAMPUS supported programs).

It also recognizes the need to make economical decisions in accomplishing our goals.

Army Answer. The mission statement referred to in the question does not change the eligibility status or priority for dependents and retirees. Current statutes provide for care for dependents and retirees in the direct care system, space and capability permitting, or under CHAMPUS at Government expense.

Admiral Cox. I fully support the new mission statement of the Office of the Assistant Secretary of Defense of Health Affairs. Recognition of the health benefit mission is necessary to fully describe our Defense Health System and, as written, does not detract from our primary mission.

Air Force Answer. Mission of the Medical Service. The Medical Service mission is to maintain the health of the Air Force to ensure maximum wartime readiness and combat capability. The Medical Service also provides (to the greatest extent possible) a peacetime health care system for all beneficiaries, in accordance with Air Force Regulation 20-28, Organization and Mission-General, The Medical Service, August 20, 1982.

Like the mission statement for the Office of the Assistant Secretary of Defense (Health Affairs), this mission statement for the Air Force Medical Service recognizes both a wartime and a benefits responsibility. However, recognition of the benefits mission does not in itself ensure more care for retirees and their beneficiaries. The benefits mission complements other legislative initiatives, such as proposed changes to criteria from which our medical treatment facilities are sized. As additional resources are realized, more care will be provided in the direct care system and CHAMPUS growth will be reduced.

Question. By adding retirees and family members to the Department's health mission, does this mean that the Department will be increasing the number of specialists who deal with family problems?

Dr. **Beary.** Title 10 specifically includes retirees and their dependents in the DoD mission and to a degree specifies the priority of care for these individuals. The DoD has not altered its recognition of these beneficiary categories specified by the Congress.

It should be noted that our mission statement does not address beneficiary categories per se; however, our goal statements recognize that equitable heath benefits, and quality health services are primary objectives in providing or arranging for care of our beneficiary population. Therefore, we will be looking at all economical alternatives to ensuring that these goals are met—both in the direct care system and CHAMPUS.

Question. By adding retirees and family members to the DoD health mission, would this result in greater utilization of uniform service facilities and less reliance on the CHAMPUS program?

Dr. **Beary.** As was stated in previous answer, the Congress via title 10 specifies the beneficiaries entitled to utilize the Defense Health System. Our mission statement does not attempt to alter these entitlements nor emphasize utilization of either the direct care system or CHAMPUS by retirees and their family members. It is our mission to look at economical alternatives for providing a quality health benefit (both in the direct care system and CHAMPUS) while achieving a healthy fighting force and a health system prepared for combat.

Question. Dr. Beary, along with the mission statement, it's been stated that you have approved a set of seven goals for health affairs, one of which is the "assurance of quality health care that meets accepted medical practice for all DoD beneficiaries." Do the words "quality health care" establish health care for retirees and dependents as a major health mission for the first time?

Dr. Beary. The quality assurance goal is to "provide or arrange for health services for all DoD beneficiaries that meet accepted standards of practice." This is the first time, to my knowledge, that such an undertaking has been stated as a formal goal of DoD.

Question. Dr. Beary, your office is the principal office that operates the CHAMPUS Program. A few weeks ago the Committee heard testimony where the CHAMPUS program was requesting $100 million for fiscal year 1982. The Committee approved $72.8 of this request, stating that $27.2 was being denied because this Committee believes there are better sources of funding available within the Department of Defense than those which were requested to be transferred. Is your office looking for other sources of funds to meet your stated requirements?

Dr. Beary. The Office of the Assistant Secretary of Defense (Comptroller) has asked the Army to identify another funding source.

Question. It is reported that Defense Department officials have identified five regions, including the Nation's Capital, in which most CHAMPUS inpatient care could be eliminated as a cost control measure.

The five regions, Washington, D.C., San Antonio, Settle/Tacoma, San Francisco/Oakland and Denver, were judged to have enough military treatment facilities to handle much of the inpatient load diverted to CHAMPUS in recent years. If the five regions were judged to have enough military treatment facilities to handle much of the inpatient load that CHAMPUS has been handling in recent years, why haven't they been utilized to a greater extent?

Dr. Beary. Until recently the level of workload in these facilities was largely determined by the number of physicians that could be obtained rather than the capacity of the facility. Now that we no longer have a physician shortage, except in certain specialties, we are in a better position to take actions which will cause a shift in workload from CHAMPUS to the direct care system. The specific actions that will be taken are currently being staffed within the Department.

Question. If the five regions that were just mentioned are judged to have enough military treatment facilities to handle much of the inpatient load that's been diverted to CHAMPUS, this would indicate that there are enough resources which perhaps are not being utilized to their fullest. If this is the case, could $160 million, the estimated shortage in '83, be transferred from the various medical activities to the CHAMPUS program?

Dr. Beary. A transfer of funds from the direct direct care system to CHAMPUS would be defeating. We must take actions which will move workload from CHAMPUS to the direct care system to better utilize the direct care system's resources and at the same time reduce the cost of CHAMPUS.

POPULATION SERVED

QUESTION. In a recent report submitted to the Congress by the Air Force Inspector General entitled "Review and Evaluation of the Air Force Health Care System", it is stated that since 1971 the Air Force medical services beneficiary population has remained relatively stable at about three million people. During the last decade, however, the proportion of active duty personnel and their dependents has decreased to less than half of the total population served. Retirees and their dependents now make up 54 percent of the Air Force population eligible for medical care. Is the same situation occuring in the Army and Navy?

ARMY ANSWER. Approximately 55 percent of the Army's beneficiaries population are made up of Active Duty members and their families, while 38 percent are retirees, their families, and families of deceased members.

NAVY ANSWER. During the last decade, the proportion of the total service population in the Navy made up by active duty and their dependents has decreased from 60.8 percent to 50.4 percent. In the same time period, the proportion of the population composed of retirees and their dependents has increased from 39.2 percent in 1973 to 49.6 percent in 1983.

QUESTION. Since retirees and their dependents now make up 54 percent of the Air Force population eligible for medical care, should Title 10, United States Code, be amended to make military retirees and their families or survivors "entitled" beneficiaries instead of "eligible" beneficiaries? It would seem that something needs to be done particularly in the Sun Belt bases areas, which are located in high retirement areas. In other words, should legislation be enacted which would make in-house peacetime medical benefits an entitlement for retirees and their dependents?

ARMY ANSWER. Current statutes provide for care for retirees and their dependents in the direct care system, space and capability permitting, or under CHAMPUS at Government expense. Legislation should be enacted to permit the sizing and operation of direct care system facilities at levels where it can be demonstrated it is more economical to the Government or meets an essential mobliza-tion/contingency readiness mission.

NAVY ANSWER. I would defer comment on such a change in statue until a specific proposal has been brought forward and I have had an opportunity to review it. However, there is proposed legislation which would make a statuatory change permitting retirees and their dependents to be used in sizing th military treatment facilities. Under this statutory change, size would be determined by economic factors specific to each project. Such a change would permit us to provide medical care in the most cost-effective manner. Studies have repeatedly established that it is less costly to deliver medical care through the direct care system than though CHAMPUS. This is substantiated by two recent studies; an economic analysis for Naval Regional Medical Center, San Diego done by civilian contractors, and the General Accounting Office's recent report on sizing policy.

I fully endorse any change that would make the military health care systems more cost-effective, add to our contingency capability, and provide a well-deserved benefit to our many retirees and their dependents.

AIR FORCE ANSWER. Yes. We support the entitlement of retirees, their families and survivors to health care in Uniformed Service medical treatment facilities, but must emphasize the necessity to size facilities based upon the needs of this population and supported by adequate resources to deliver the entitled care. Without adequate resources, the change from eligibility to entitlement would only serve to lower the morale of our retired population and complicate our ability to meet the health care needs of our currently entitled population.

RESIDENTIAL TREATMENT CENTERS

QUESTION. Last year, the Senate report directed that DoD continue the RTCs as a recognized benefit. The House Conferees reluctantly accepted the Senate position to the continued use of RTC's. In a recent hearing, it was stated that for fiscal year 1982 admissions to RTC's are expected to hold at 360 with cost growing due to inflation to $15 million. For each admission, this equates to $41,666. Are these costs comparable to state-run residential treatment centers?

Dr. Beary. Costs in private RTCs are on the average 40 percent higher than those of state-run RTC's.

HEALTH MAINTENANCE ORGANIZATIONS (HMO'S)

QUESTION. The purpose of the Health Maintenance Organization demonstration project is to encourage flexibility for the beneficiaries in trying to hold down the cost of medical services. As we stated before, it would seem that to really demonstrate how well HMO's work that the projects would be demonstrated in close proximity to military medical hospitals and great beneficiary populations, such as in the South where great numbers of retirees live, instead of Portland, Oregon and the Minneapolis-St. Paul areas. It was testified, that you sought sites which had viable HMO's and a manageable population size. Dr. Beary, it is our understanding that you made the decision as to where the HMO demonstration sites will be located.

What do you consider a manageable population size?

Are there great numbers of retirees in Portland and in the Minneapolis-St. Paul areas?

Dr. BEARY. We feel that 2,000 enrollees is the maximum size we can manage and still satisfy the requirements of the test. The number of retirees in Portland is about 8,900 while Minneapolis-St. Paul has about 4,900.

QUESTION. It is our understanding that the Surgeons General reactions with respect to HMO's have been mixed and that for the most part the Surgeons General would prefer not to test near military facilities. Would each of you Surgeons General state your thoughts with respect to HMO's being in close promimity of military medical facilities?

ARMY ANSWER. The enrollment of CHAMPUS beneficiaries in HMO's near military medical facilities would defeat DOD and Congressional efforts to contain CHAMPUS costs. By reducing demand for services currently offered in nearby military medical facilities HMO's would lessen the economies of scale currently available to the military facility. Presently, the Services are able to evaluate the inpatient service needs of the eligible population located within 40 miles of the military health facility and to selectively approve CHAMPUS expenditures only for inpatient care beyond the capabilities of the military facility. HMO enrollment, therefore, would eliminate the Services' ability to require maximum utilization of existing federal health care facilities resulting in the inefficient use of federal health care resources.

The training capabilities and mobilization readiness of the direct care system are dependent on a broadly-based patient population and workload. Combat readiness would be threatened by the diminution of the Army's ability to recruit physicians due to this erosion of its specialty training capabilities.

NAVY ANSWER. The Navy is required to maintain fixed facilities, equipment, and a mix of trained professionals in constant readiness to provide active duty care and to maintain contingency capabilities. The more patients seen in these facilities, the more cost effective these assets become. Therefore, the Navy desires to provide health care from the direct care system to the maximum extent possible. CHAMPUS supplements this direct care system by providing services which may be temporarily not available. The HMO's, however, contract for full-service health care, thereby losing the individual to other services which may be available in the direct care system.

Continued improvement of the present system of direct care coupled with CHAMPUS is preferable to introduction of a competing HMO that could adversely affect the Navy medical department's ability to respond to military contingencies.

AIR FORCE ANSWER. Testing the "HMO" alternative" in service areas of Uniformed Services medical treatment facilities (USMTFs) is not recommended. HMOs provide a full range of care for specific periods of time—normally one year, the CHAMPUS supplement to the direct care system provides time specific care for diseases and injuries and can be purchased only whne needed. Since HMOs provide total care, beneficiaries enrolled in an HMO would receive no care from the USMTF even though care may be available. This would lead to inefficient use of existing resources. Total removal of "blocks" of patients from USMTF responsibility would interfere with orderly development of resources necessary to support readiness requirements since workload, to effectively utilize resources or maintain proficiency, might not be available.

AIR FORCE CHAMPUS COST

Question. The Air Force Inspector General states that the Air Force Medical Service is projected to need $277 million for CHAMPUS expenditures in fiscal year 1982. These expenditures are necessary because the resources currently allocated to the direct care system cannot support the total population eligible for services.

If an additional $277 million were made available to the direct care system, could you support the total population eligible for services?

Answer. No, CHAMPUS is a DOD funded program. Providing an immediate infusion of CHAMPUS funds into the direct care system could not be matched by an immediate increase in availability of care in the direct care system. DOD health care facilities must be sized based upon needs of the total beneficiary population and staffed with an apporpirate mix of providers. With adequate resources, much of the care currently provided under CHAMPUS could be accomplished in the direct care system. This shift of health care form CHAMPUS to the direct care system would enhance the readiness capability of the Medical Service and be more cost effective.

FORMER PHS FACILITIES

QUESTION. The Director of CHAMPUS stated that the former PHS hospitals bill at about the same rate as other civilian hospitals in their areas and that the total cost of care would be the same as CHAMPUS. However, he stated further that the cost to the government under CHAMPUS would be lower due to the cost-sharing provisions of the Program. Since these so-called uniformed service facilities are not really miltary medical facilities as we know them, and they are not cost-effective when compared to CHAMPUS, would you agree to legislation which would result in cost-sharing provisions similar to the CHAMPUS program instead of permitting greater cost to the government?

Dr. BEARY. Mr. Chairman, I cannot commit the Department with regard to proposed legislation which has not been properly staffed within the Executive Branch; however, I personally would agree to such legislation.

QUESTION. The Office of CHAMPUS will hire a fiscal intermediary for bill paying and claims processing purposes between the military services and these new uniformed service facilities. What are the estimates for these administration costs for fiscal year 1983?

Dr. BEARY. Because we are still negotiating the fiscal intermediary contract, I would rather not provide specific estimates. I will be pleased to provide them to staff.

DEFENSE ENROLLMENT ELIGIBILITY REPORTING SYSTEM (DEERS)

QUESTION. Last year, the Assistant Secretary for Health Affairs stated that the DEERS project is no longer in a test mode but undergoing full scale implementation throughout DOD, interfacing not only within direct care facilities but also with TRIMIS systems and the CHAMPUS program, and that the system is currently operational in 10 states with over 100 field activities utilizing the system.

Is DEERS being used as the primary source for eligibility determination in lieu of the ID card?

Dr. **Beary**. No. DEERS is used in conjunction with the ID card for eligibility confirmation.

Question. Wasn't the original plan calling for DEERS to be the primary means of determining eligibility and, if so, what has caused the deviation from this plan?

Dr. **Beary**. The original plan called for DEERS to be used in combination with the identification card to confirm eligibility for benefits.

Question. Are there plans to make DEERS the primary means of determining eligibility at some later date and, if so, when and how will it be determined when DEERS is usable for this purpose?

Dr. **Beary**. There are plans to make DEERS the primary means to confirm eligibility. These plans call for this to occur by end fiscal year 1984.

Question. In order for DEERS to be effective, accurate and complete, beneficiary information is necessary. What percent accuracy and completeness has DEERS achieved and how is it being measured?

Dr. **Beary**. DEERS performs a number of edits on critical data to assure accuracy and completeness. For those critical fields, the data must be 100 percent complete and meet the edit criteria for accuracy before being entered into the data base. DEERS is experiencing a 10–12 percent rejection rate as a result of these edits. DEERS measures its accuracy and completeness by performing the aforementioned edits.

Question. How many people has DEERS shown as ineligible for health care services? It is the Committee's understanding that DEERS shows very many people ineligible for health care services, especially in CHAMPUS. Why is this?

Dr. **Beary**. DEERS does not maintain a cumulative summary of the total number of ineligibles found. An analysis of our current workload shows that 2 percent of our direct care system and up to 6.9 percent of our CHAMPUS inquiries result in a response of ineligible. However, through further analysis we are able to reduce this number to the 2 percent range. There are a number of reasons for the discrepancy between the direct care and CHAMPUS figures.

Entitlement differences between the two systems result in some improper eligibility indications for CHAMPUS users (e.g., persons over age 65 are automatically denied CHAMPUS privileges until they have verified Medicare exemption).

Numerous problems occur in matching eligibility effective dates with dates of service because of the elapsed time associated with CHAMPUS claims adjudication. This phenomenon does not occur in the direct care system due to the real time nature of the eligibility inquiry with relation to the dates of care.

Question. What percent of the DOD population, sponsor and dependents, have been enrolled in the areas of the country that have completed the DEERS enrollment process?

Dr. **Beary**. We are attaining approximately 87 percent enrollment of the estimated population in areas where we have completed intensified enrollment.

Question. In order to be effective, DEERS must also provide timely updates of changes in eligibility status. How current is the data base? It has been reported that it takes at least two months and often longer for DEERS to reflect new or changed data. Isn't there a high degree of vulnerability to unauthorized use of medical services during this period because of having to rely on the retrieval of ID cards in cases where beneficiaries lose their eligibility—a system which has proven to be ineffective and a major reason for creating DEERS?

Dr. BEARY. Information used to update the DEERS eligibility data base comes from three sources.

Monthly data tapes are received from the Services for Service gains and losses.

Quarterly, full file information is received from the services for sponsors.

Weekly, dependent information from the DD Forms 1172 is entered into the DEERS system. It now takes up to two months from the time the sponsor completes a DD Form 1172 until the data appears on the DEERS eligibility file.

Vulnerability is less than might be expected because the system contains the active duty sponsors' projected end of service date and retirees' projected end of eligibility dates for CHAMPUS, and flags records when these dates are reached. The time delay problem for getting dependent information into the DEERS data base should eventually be solved by the ability to capture data in a real-time on-line mode. Real-time Automated Personnel Identification System (RAPIDS) is one means to provide on-line updating of DEERS with dependent information from the DD Forms 1172, concurrent with the preparation of a machine readable, embossed identification card.

Alternate sources of data and alternate processing methodologies are being developed for use in the interim prior to RAPIDS implementation in fiscal year 1984.

QUESTION. Some changes in dependent eligibility status must be reported by the sponsor in order for DEERS to be accurate. (For example, births, deaths, divorces, marriages of dependents under age 21.) Traditionally, non-reporting of these changes has permitted unauthorized use of medical benefits. What are the services doing differently than before DEERS to ensure that sponsors report changes in dependent status that affect eligibility?

Dr. BEARY. With DEERS, there is a new DOD requirement which has been implemented, that the services report changes in dependent status to a central place, the DEERS Enrollment Processing Center in Santa Barbara, California. The Services have implemented or are in the process of implementing new procedures for reviewing sponsor's records, such as at inprocessing at a new duty station or during retirement or separation processing. A program is also being developed, with DEERS, to begin making random audit checks for error detection by corresponding with beneficiaries on the information contained in DEERS. This program begins in fiscal year 1983.

In addition, the services now issue ID cards to dependents for no more than three years, instead of for six years. This change has increased the frequency that sponsors must certify dependency status.

Finally, as a result of DEERS a DOD DEERS program manual has been published and is currently being implemented by the Services that requires new criteria and procedures for handling additional, changed or deleted information on sponsors and their dependents. These criteria and procedures are now standard and uniform across all Uniformed Services.

QUESTION. What penalties exist for sponsors who do not report such changes? If none, why not?

Dr. BEARY. Active duty sponsors that do not report changes are violating regulations and, therefore, subject to Uniformed Code of Military Justice (UCMJ). Penalties could be incurred by any sponsor: (a) if a sponsor falsifies official documentation, such as the DD Form 1172, illegally claiming an ineligible beneficiary, or (b) if a sponsor fraudulently seeks to obtain DOD benefits for someone who is no longer eligible. The penalties that exist fall under existing federal/military regulations for falsifying official records or perpetrating fraud against the government.

QUESTION. To what extent do the services use existing systems for learning of these changes, for example: finance and accounting records for identifying changes in survivor benefits; hospital records for identifying births, emergency notification records or next of kin; local governments for divorce, marriage, and birth records?

Dr. BEARY. DEERS and the Services have been working together to obtain, for DEERS use, reconciliation data tapes from the Services' finance centers, the Veterans Administration, and the states' death files.

DEERS is exploring with the Services additional ways to use these and the other systems you mention to improve its reconciliation process, such as Service IG checklists, file matching, audits, etc.

QUESTION. If these types of status changes are not reported or identified, how will DEERS be an improvement over previous procedures and correct the types of weaknesses which led to its creation in the first place?

Dr. BEARY. As was stated, DEERS is providing improved beneficiary status information and maintenance of that information. Also, regulations dealing with eligibility verification and confirmation have been strengthened as a result of DEERS. Additionally, DEERS will be an improvement because, for the first time, there will be a central data base that will contain data on all beneficiaries issued ID cards.

If a sponsor attempts to get ID cards for more than one spouse, the data base will automatically indicate there is a problem.

The DEERS system will contain edits that will automatically flag dependents over the age of 21. Annual certification by the sponsor of student or other special status is now required for ID card issuances.

Automatic change in status at age 65, for beneficiaries, from CHAMPUS benefits to Medicare.

The implementation of DEERS program manual data standards, standardized collection and maintenance procedures will improve many weaknesses in the previous system.

There will be enhanced detection of fraud by ability to do automated data checks, i.e., computer matching with other DOD and Federal agencies/programs.

Access to the DEERS data base by personnel offices as well as medical functions in the direct care and CHAMPUS system will greatly facilitate the ability to detect and correct errors on beneficiary information.

QUESTION. Sufficient and efficient computer resources are necessary for an effective DEERS. Are the present DEERS computer capabilities sufficient to handle data storage requirements and expected inquiry workloads?

Dr. BEARY. The initial computer configuration has been and will be enhanced with additional storage and communications interfaces to meet the near term requirements. DEERS has received a delegation of procurement authority from GSA and intends to release a request for proposal during fiscal year 1983 which will support the program in the future.

QUESTION. Is it necessary and efficient to maintain two data bases at separate locations with separate equipment—the enrollment data base and the eligibility data base?

Dr. BEARY. The Enrollment Data Base contains several data elements not required for Eligibility reporting. It is maintained on a large mainframe computer with a 5 billion character data base well suited for analyses, research and audits involving major sections of the data base. The eligibility centers at Alexandria and Monterey organize smaller files to obtain rapid response times for single records. Neither configuration could satisfy the entire workload, and the geographical separation provides for backup of essential functions as well as minimizing communications costs for DEERS users. This flexibility allows for the rapid balancing of the system to support new users of real-time services as they come online. Contingency planning is based upon the availability of at least one system at all times.

COMPUTER MODELS FOR PREDICTING WARTIME REQUIREMENTS

QUESTION. In previous testimony before Congress, the Services and Health Affairs have cited computer models for predicting wartime requirements.

a. Do each of the Services use these models, and, if not, when will each Service adopt them?

b. What differences exist in the methods the Services now use to determine wartime requirements?

c. What disparities in the Services requirements result from their use of different methods in determining them?

d. What mechanisms have the Services established to resolve these disparities in their wartime requirements?

Army answer. a. The Army does not presently use the Tri-Service model. The Army's requirements for manpower, materiel, and facilities are determined by using an annual study entitled Total Army Analysis. The Army has not yet concurred in the Tri-Service Medical Planning Module. The Tri-Service Medical Planning Module (MPM) was forwarded to the various commanders-in-Chief for staff review, and responses are due back to Joint Chiefs of Staff

(JCS) by end of August 1982. Upon receipt of comments, JCS will formally staff the MPM with the services before it can be approved for use by all service components.

b. Must be answered by DOD.

c. Must be answered by DOD.

d. Once agreed upon by all the Services, and modified as necessary, the Medical Planning Module will be the mechanism for the Services to resolve disparities in their wartime requirements.

NAVY ANSWER. a. Navy developed the predecessor to the JOPS III Medical Planning Module to determine wartime medical support requirements. The methodology used by Navy is consistent with that computer logic and methodology. Navy is actively participating in the San Antonio computer model development process with the other Services, and when the systems are documented and validated, Navy fully intends to use them in the requirements generation process.

b. The Services all use the Defense Guidance as the source of determining the wartime medical support requirements. Based upon the scenarios depicted in the Guidance, the forces at risk projected by the Guidance and approved planning factors, medical support requirements are developed. The medical support requirements addressed in the Guidance not ony include the deployable medical systems, but also direct staffing of the CONUS hospitals to their expanded bed capacity. Services basically use the same methodology for determining their requirements.

c. I doubt that any significant differences will be identified when the Serices begin to use the same computer systems for requirements generation, since the Services use the same data base and methodology now. Using the same systems may tend to establish greater credibility, but would not appreciably change requirements.

d. The Services are now working with the JCS Ad Hoc Medical Steering Committee to study the medical support requirements for the various combat theaters; discrepancies and variances are addressed in that arena. The services also study and resolve similar issues in the OASD(HA) Medical Mobilization and Deployment Steering Committee and the Defense Health Council.

AIR FORCE ANSWER. *(a)* The Air Force uses the standard DOD computer-based methodology for determining its wartime health care resource requirements.

(b) The Air Force uses a standard Tri-Service computer based methodology to determine wartime requirements.

(c) Disparities which exist are directly related to each Services' wartime mission and expected casualty rates.

(d) The Tri-Service computer based methodology standardizes determination of wartime requirements.

CHEMICAL AGENTS STUDY

Question. For fiscal year 1983 the Army is requesting $650,000 for a chemical agent study. The study has to do with possible long-term health effects of chemical agents used in human testing conducted in previous years. The testing will be accomplished by the National Academy of Sciences. This contract was initiated in fiscal year 1980 and the Army states that it will require additional study in fiscal year 1983. What chemical agents were used in human testing in previous years?

Answer. The issue of the use of human volunteers was considered by the Armed Forces Medical Policy Council during the early 1950s. The council concluded that essential data could not be obtained unless human volunteers were used, and the use of humans in medical research was authorized. During the years 1958–1975, a total of 254 different chemical compounds were tested and some 6,720 soldiers participated in the program. Human volunteers were exposed to chemicals in controlled clinical test regimens. In all experiments the subjects were thoroughly informed of all procedures and of what might by expected as a result of each test. Written consents, witnessed by medical staff members were required. The chemicals included anticholinergic, anticholinesterase, cholinesterase reactivators, irritants and psychmimetic chemicals.

Question. If this contract was initiated in fiscal year 1980, how much money has been expended on this study since that time?

Answer. To date, $341,000 has been expended on this part of the study encompassing two groups of chemical agents.

Question. The budget base for fiscal year 1982 was $221,000. Why are you requesting an additional $429,000 for fiscal year 1983?

Answer. The initial study for the NAS covered two out of eight groups of chemical agents used in the human testing. The first two groups investigated were those that had the most readily available information, existing literature, and familiarity, while the remaining six groups will require a longer period due to a lesser degree of familiarity, knowledge, and comparative literature. At the time of the fiscal year 1983 budget submission, it was estimated that the cost of the follow-up contract effort would be $1,429,000. Subsequently, the estimate submitted by the NAS is $435,000 for completion of the study effort.

Question. Why is this being requested in the O&M justification instead of being funded in the research and development budget?

Answer. The research funded in the R and D budget is usually aimed at developing an end item/system for Army use; however, this study is aimed at answering an operational question; namely to ascertain if any of the test participants are at continuing risk of adverse health effects.

CARE IN NON-DEFENSE FACILITIES

Question. The Army is requesting $2,509,000 for non-personnel price growth, private sector. Please explain this request.

Answer. The figure on page 84–52 shows an increase of $2,590,000 for non-personnel price growth and represents the applicable DOD inflation rate for contract services.

Question. There is a program increase for "workload" totaling $592,000. The justification states that with the operation of selected Public Health Service hospitals and clinics, Army beneficiaries will continue to receive care in these contractor-operated facilities. How was the estimate of $592,000 determined? Is it a guesstimate?

Answer. Workload is developed based on inpatient and out-patient experience for the most recent 12 month period, a trend analysis over a period of years, and adjustments for known changes such as the continued operation of selected Public Health Service hospitals and clinics. The average rate in effect in fiscal year 1982 was applied to the changed workload projection to arrive at the increase of $592,000.

COMMERCIAL ACTIVITIES

Question. Under Program 8—Medical, what is the total amount being requested in fiscal year 1983 for Commercial Activities, and how does this compare with the appropriations for fiscal year 1982?

Answer. Within Program 8 Medical (mission) $403,000 is being requested for fiscal year 1983 for the administration of the Commercial Activities Program. During fiscal year 1982, it is estimated that $895,000 will be expended in the mission areas. An additional $1.198 million is requested for support of these functions in the base operations activities on our medical installations' contracting offices.

Question. With respect to commercial activities, the Army justification states that "funding provides resources for management spaces for timely program execution and restoration of critical audit spaces." What does this mean?

Answer. Insofar as P8M is concerned the requested funding provides administrative staff to identify and perform the sophisticated cost analysis required under the program (OMB Circular A-76) as a basis for decision to either contract the service or retain as a Government function.

PRESERVATION OF ORDER

Question. The Army is requesting $4.2 million to finance police services at three installations to include military police operations, installation level confinement activities, and operation of physical security equipment. This request finances pay and allowances for 109 civilian personnel. The $4.2 million request is $2.5 million more than the current estimate for fiscal year 1982. Why are you requesting such a large increase over the current fiscal year?

Answer. The additional funds, within the base operations, are provided to contract for physical security operations and the operation of physical security equipment. The use of civilian personnel in other installation police activities will eliminate the military police force at those medical installations, due to a decrease in Army strength.

FULL OPERATION—FORMER PHS HOSPITAL, NORFOLK—NAVY

QUESTION. Full facility transfer of the Norfolk site is now scheduled for 1 October 1982. The Navy states that they will operate the facility as an outpatient clinic, and an expanded alcohol facility and rehabilitation unit, and other specific functions. What are you requesting in fiscal year 1983 for the operation of the facility?

Admiral Cox. The Navy budget for fiscal year 1983 contains a total of $6,030,000 to operate the functions at the former Public Health Service Hospital site in Norfolk, Virginia. Of that amount, $2,591,000 is for maintenance and repair of real property, utilities and housekeeping services and $3,439,000 is for the operation of the medical clinic and the alcohol rehabilitation unit.

NURSE MILITARY SUBSTITUTION—NAVY

QUESTION. The Navy shows a decrease of $142,000 resulting from the substitution of 15 civilian nurses by military nurses in order to alleviate problems caused by civilian nurse turnover experienced at Navy hospitals. Is the reason for civilian nurse turnover experienced at Navy hospitals due to low salaries?

Admiral Cox. The Navy budget actually shows a total decrease of $356,000 resulting from the substitution of civilian nurses by military nurses. This total reflects the substitution of 24 nurses in Regional Defense Facilities (Teaching Hospitals) and 16 nurses in Station Hospitals and Clinics for a total of 40.

This substitution is also designed to allow us to expand our contingency manpower base, since military nurses are immediately available for service overseas when needed.

In addition, many hospitals, civilian as well as military, are experiencing a high turnover of nurses. Salaries may be part of the problem, but other factors such as personal preferences for shift assignments, nights and weekends, for example, also are involved.

[CLERK'S NOTE.—End of questions submitted by Mr. Addabbo.]

Mr. ADDABBO. The committee stands in recess unitl 9:30 tomorrow.

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TUESDAY, AUGUST 17, 1982.

FISCAL YEAR 1983 DEPARTMENT OF DEFENSE BUDGET UPDATE

WITNESSES

HON. CASPAR WEINBERGER, SECRETARY OF DEFENSE

HON. RICHARD D. DeLAUER, UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

HON. JACK R. BORSTING, ASSISTANT SECRETARY OF DEFENSE (COMPTROLLER)

BRIG. GEN. J. P. McCARTHY, SPECIAL ASSISTANT FOR MX MATTERS, UNITED STATES AIR FORCE

INTRODUCTION

Mr. ADDABBO. The committee will come to order.

The hearing this morning will be open as long as we can. The latter part of the hearing will be closed, when we go into questions on the MX and basing mode.

Mr. Secretary, I have asked you to appear today because the time is fast approaching when you, and we, must at least come to grips with the cold, hard facts of reality. This committee bears the heavy responsibility of formulating recommendations concerning defense spending for the coming fiscal year.

In order to discharge that responsibility wisely and well, we must deal with things as they are, not as we wish they were. I ask you, most earnestly, to consider the following facts. I emphasize that these are not statements of opinion or conjecture—they are facts.

First, the budget resolution for 1983, supported by the administration, requires substantial reductions in budget authority for defense. The committee's 302 allocation requires a reduction of $12 billion, and the Senate $11.5 billion, from your request of $249.6 billion which includes the sums budgeted for the proposed pay raise next October.

Second, the resolution also calls for total cuts in the Defense function of about $37 billion in budget authority and $31 billion in outlays for fiscal years 1983, 1984 and 1985 from the sums originally proposed and programmed by your Department. Many in the Congress believe the President supported these fiscal years 1984 and 1985.

Third, even under the budget figures agreed to by the President, the fiscal year 1983 budget carries with it the largest deficit in the Nation's history.

Fourth, the predicted economic recovery has failed to materialize, and there are severe differences within and without the administration as to the proper actions needed to alleviate our distress.

While currently interest rates are down, many predict this is only temporary. Inflation turned back up in June. Total output from industry, auto sales, home building, shopping, profits, jobs, and the stock market are all in a downward trend. And unemployment is the highest it has been in over 40 years.

The predicted upturn in the economy in the spring, and later this summer, has not materialized. Investors and others are frightened by the projected budget deficits that are unprecedented in American history. The Congressional Budget Office forecasts a deficit of at least $146 billion in fiscal year 1983 alone.

DOD outlay projections for fiscal year 1983 are $215.9 billion, increasing to $356 billion in fiscal year 1987, assuming the administration's inflation estimates are correct. If you take your fiscal year 1983 outlay projections, DOD will spend $591.5 million a day, $424.6 million an hour, and $6,800 every second of each day of the year.

In the past 40 years, the Department of Defense spent approximately $2 trillion. Yet there is proposed to be spent $1.6 trillion for defense in the next five years. So in the next five years you are proposing to spend almost what we spent in the last 40 years, and that spending supported several wars. Yours is a peacetime budget.

The consequence of these facts is that this committee must not simply determine where to cut the fiscal year 1983 budget, but must do it in a way which logically carries into the future. To deal with this coming year's budget only, without reference to later years, is illogical and costly, and ultimately self-defeating.

Further, there are some approaches we must avoid altogether. First, we will not allow actions which in any way detract from readiness. In other words, failure to fund adequately for the support of systems and equipment already in the inventory or nearly so is, quite simply, dangerous and impractical.

Second, the past DOD practice of "shaving" funds from nearly every program, in order to get the total budget down, has proven a costly failure. The end result is that every program costs more, every program slips, and little new equipment reaches the troops in the field.

I submit, Mr. Secretary, that we have but two basic choices for cutting $12 billion from the Defense budget for fiscal year 1983, and the remainder of the $37 billion for the following two years.

One course is to outright cancel some large, costly systems like the MX, the B-1, the C-5A, the KC-10, and the F-18. The other is not to fund proposed force structure increases and enhancements, contenting ourselves with fewer divisions, task forces, battle groups and air squadrons projected in future years. In other words, stay where we are with today's force structure. We must follow either, or both, of these courses.

Mr. Secretary, we look forward to your recommendations because we know you have looked at the 1984 budget, and we do not want to fund in 1983 those programs which may be cut back or eliminated in 1984, so we look for your direction this morning.

Secretary WEINBERGER. Mr. Chairman, thank you very much, sir. It is a pleasure to appear before your committee today and to discuss the 1983 budget and also, as you said, to provide an update on the MX basic planning. I have a prepared statement which I will summarize, Mr. Chairman, with your permission, but I would like the entire statement printed in the record of the committee.

Mr. **Addabbo**. Without objection, it is so ordered.

[The statement of Secretary Weinberger follows:]

Statement of Caspar W. Weinberger, Secretary of Defense

Mr. Chairman, members of the committee: It is indeed a pleasure to appear before you today to discuss the fiscal year 1983 defense budget and to provide an update on our M-X basing planning. It has been six months since I first appeared before this committee to present the President's defense budget. At that time I discussed the defense program that we developed to begin restoring America's defenses—a mandate that the Nation's voters gave to President Reagan when they elected him.

Since we spoke last February, there has been some erosion of that defense program. In May, we reduced defense program budget authority by $7.5 billion as part of a larger budget agreement by President Reagan and the Senate Republican leadership. In the President's judgment—and I fully concurred—those reductions represented the maximum that could be made without seriously delaying or making our defense program more expensive. Any additional reductions would significantly weaken our defense posture.

Now a further reduction, one that is particularly dangerous to the Nation's security, has been proposed by some in their discussion of the section 302 allocations. To adopt this proposal would mean a refusal to spend defense funds previously allocated by the House in the first concurrent resolution.

This is particularly incomprehensible, coming as it does at a time when the threat posed by the Soviets is dramatically increasing. The defense budget has been carefully designed to eliminate waste, while at the same time providing the minimum strength necessary to deter aggression and to protect the vital interests of the United States. Nevertheless, some have proposed under section 302 to cut the defense budget not only below that which the Congress actually voted, but at a time when our danger has never been greater.

Since we presented our original program, we have confirmed significant additions to the Soviet inventory and positively identified several new Soviet weapons. They have produced 65 more SS-20's, increasing the total to 315 missiles and 945 nuclear warheads. Three-quarters of those missiles, which have a range of 5,000 kilometers, are targeted on the cities of Western Europe. The Soviets will further increase their strategic capability with a new long range intercontinental bomber, "The Blackjack A," that we have just identified. Slightly larger than the B-1, the "Blackjack A" has begun its flight testing and will probably be operational by the mid-1980's.

In the past five months we have also determined that the Soviets have deployed 60 additional Backfire aircraft, making a total of 200 of those versatile bombers in line units. In addition, the Soviets have just deployed improved air superiority aircraft in Eastern Europe and may be about to add a specialized new close air support attack aircraft to their force structure. Naval improvements include new progress with the SS-N-20 Typhoon missile, important advances in anti-ship weapons, and continuing accumulation of evidence that the Soviets intend to expand their future sea-based tactical aviation capability.

All of these discoveries made since we presented our defense budget to Congress indicate that we could be proposing major additions to our defense program instead of chipping away at our currently proposed budget or even cutting it below congressionally approved levels by unilateral committee action. The Soviet threat should be the ultimate criterion for evaluating whether the defense budget is appropriate; yet some still say we should decide the defense budget by asking whether it is fair to food stamps or the dredging of harbors.

We have considered the economy—and have made more reductions than many thought necessary to help reduce the deficit. Last September, in response to the President's economic recovery program, we submitted an amendment that reduced outlays by $13 billion and budget authority by $27.7 billion over the period fiscal year 1982–84. Reluctantly the President agreed to reductions again this year for fiscal year 1983.

Most economists agree that the effect of increased defense spending will not cause more inflation. To those who claim that increases in defense spending will create bottlenecks in key industries we should point out that the U.S. industrial base is currently operating far below capacity. Nor can we ignore the large number of jobs created by defense spending, particularly with current high unemployment. If you cut our budget by $10 billion, you will be depriving 350,000 Americans of jobs.

We have worked hard to bring good honest business sense to the Defense Department. To purge the legacy of cost overruns we inherited, and to improve our weapons acquisition process, we have taken management steps that promise greater economy and efficiency. There has been real progress; in fact, we estimate that our acquisition initiatives will save $16 billion over the 1981 to 1987 period. But if we return to the start-and-stop spending patterns of the past we will revive instability in our defense industries and really create waste and inefficiency in the Department of Defense.

The arguments of those who pit defense spending against social spending are rooted in emotion not fact. The fact is that defense has already taken more than its fair share of cuts over the past decade. It was the major increases in many social programs that forced Government spending so high. This was one of the real causes of the past inflation which robs from everyone. But most of all the poor. When President Reagan's defense programs are fully enacted, defense spending will take up about 7 percent of GNP—considerably less than the 9 percent which was standard in the 1950's and 1960's when the economy was very bouyant.

We must also refute the myth that our defense increases have displaced social spending; in fact just the opposite is true. For example, during the period 1970 to 1980, defense spending declined 19 percent after adjusting for the effects of inflation compared to a real increase in social and economic spending of 122 percent during the same period. Under President Kennedy defense spending was 44 percent of our budget while social spending only had a 25 percent share. Today the situation is almost reversed. Defense is down to 26 percent of the budget and social programs consume 37 percent of the total.

But the main danger which would result from attempts to cut defense spending below the levels already approved by the Congress, is that they would put at risk. In a most dangerous way, the Nation's future security in the face of one of the gravest threats the Nation has faced.

We certainly cannot cut readiness, failing to compensate, train, or supply our personnel as we did during the 1970's. Nor can we skimp on spare parts or ammunition so that we would be only able to sustain combat for a few days.

To some it might be tempting to reduce further our modernization accounts. We have already made tough decisions to trim our modernization programs; If we move to defer or stretch out the remaining programs we would be returning to the instability and waste of earlier years. Our promising initiatives to obtain economies and efficiencies, particularly multiyear procurement and economic production rates, would be undermined before they could even be fully implemented.

We certainly should not contemplate tampering with our strategic modernization at this time when the Soviets are opening up a dangerous strategic gap in their favor. President Reagan made a commitment to revitalize our strategic deterrent that brought the Soviets to the negotiating table.

The Nation is entitled to that protection, if we are to have arms reductions, we must not destroy the incentive essential to obtain Soviet cooperation.

If the committee insists on even more reductions in defense, then we must reduce our combat forces themselves—perhaps deactivating an Army division, or even two, and two air wings as well as decommissioning some Navy ships. At least then we would not be returning to the "hollow" force of earlier years. But we must recognize that a smaller force can only have a smaller mission. What commitments are we willing to forego? Are we to give up Europe, or Japan, or Korea, or the Caribbean, or the Mideast, or the defense of the continental U.S.?

In sum, there are no avenues for reductions that are not painful, are not detrimental to our commitment to protect America by rearming in time. President Reagan never said that it would be easy; he always advised the Nation that it would take at least 6 years to redress the neglect of the past. It is crucially important at this particular time that we show our commitment to stay the course, that we not allow the balance of power, so essential to deterrence, to erode further in the interest of some illusionary political or economic expedient.

We know the pressures on Congress are great, that the votes will be close. But the stakes are also great, the margins of safety close. Your support of the President's defense program would send a signal that the American people are waiting to hear. It is a signal that will be heard loud and clear in the Kremlin, at the negotiating table in Geneva, and throughout a world waiting to hear that once again America intends to do whatever is necessary to preserve peace with freedom.

If we are to send that signal clearly and forcefully we must not neglect a critical element of our defense program—that is our strategic modernization program, that program has been designed to restore the strength necessary for us to maintain a credible deterrent. Deterrence has worked for 37 years; we must not abandon it now. For we Americans know that in a nuclear war there would be no victors, we know that nuclear war is unwinnable.

Essential to the success of our deterrent is a strong, survivable land-based ICBM force. Yet the Soviet's massive and destablizing strategic arms buid-up now threatens the survivability and retaliatory effectiveness of those very forces. Specifically, the Soviets have developed and deployed numerous large and highly accurate ICBM's with multiple independently targetable reentry vehicles that give them the capability to destroy most of our ICBM force in a first strike, while expending a relatively small proportion of their ICBM force in the process.

The Soviets have also shown indications that they believe nuclear war is winnable. They have hardened their ICBM silos and critical command and control facilities, making them far less vulnerable to our Minuteman force. They have developed a re-firing capability and expended large sums on civil defense. And their doctrine implies, during time of war, a first strike against U.S. strategic forces while limiting damage to the Soviet Union. These are very unsettling developments indeed.

The M-X missile was designed to restore the balance necessary for deterrence. Unlike the Minuteman, the M-X possesses the prompt, hard target capability necessary to retaliate effectively against the full range of vital Soviet strategic assets. The M-X must possess the necessary basing characteristics to ensure its survivability. By strengthening the ICBM forces and making it more survivable, the M-X will erode Soviet confidence in their ability to conduct offensive strategic operations successfully and make it less likely that they will try to find military solutions to their political aims, its deterrent value cannot be overemphasized.

Failure to deploy M-X will result not only in weakening our deterrent, but would permit the Soviets to focus their efforts on defeating the air and sea legs of the Triad, secure in the knowledge that the U.S. ICBM force would not survive a Soviet attack. To allow the U.S. ICBM force to remain vulnerable would permit the Soviet Union to divert immense resources for submarine launched ballistic missiles, antisubmarine warfare and improved air defenses.

On the other hand, deployment of M-X in a survivable basing mode will show our allies that we can make the hard decisions necessary to modernize our nuclear capability—decisions that will influence the pace of on-going nuclear force modernization initiatives within NATO. Timely deployment of M-X will also enable us to capitalize on the sizeable investment of some $4.5 billion that has already been made in the M-X program.

Most importantly, our resolve to deploy M-X enables us to enter the strategic arms reduction talks from a credible position that gives us a counter to the powerful leverage of the Soviet Union's on-going programs. The M-X provides the essential incentive for meaningful and effective negotiations. I think it is important to remember that early in the Carter Administration Secretary Vance went to Moscow with a proposal to reduce nuclear weapons. The Soviets refused even to discuss it. But this year when President Reagan offered for more sweeping arms reduction proposals the Soviets agreed to negotiate.

This change in the Soviet position is due to the fact that they now have incentives to negotiate. NATO's planned deployment of Pershing II missiles and ground launched cruise missiles in Europe have provided the Soviet Union with an incentive to negotiate reductions in intermediate range weapons. Our plans for modernizing our strategic nuclear forces with the M-X missile, the B-1 bomber and the Trident submarine have given the Societ Union an incentive to negotiate reductions in our strategic nuclear forces. Without the President's strategic modernization program, particularly the M-X, obtaining deep and significant arms reductions in Geneva will be extremely unlikely.

We are showing the necessary resolve now. Our missile development program is on schedule, with plans for an initial flight test in January; and we are working hard to define by 1 December a survivable basing mode that could be deployed starting in 1986.

Although we had been studying several basing approaches—continuous patrol aircraft, deep basing, and ballistic missile defense—Congress' decision not to support interim basing led us to focus on those permanent basing concept most likely to be achieveable by 1986. With many agencies studying those concepts for us—the Air Force, Army, Defense Nuclear Agency, the Intelligence Agencies, the Nuclear Weapons Laboratories, the Townes Defense Science Board and a host of other advisory groups—I am confident in our ability to find the best basing concept for the Nation's security.

Last year's Townes Panel, for example, recommended that we study the effects of fratricide—the condition in which incoming enemy warheads are destroyed or deflected by the detonations of preceding warheads. We are studying closely spaced basing as a promising mode for timely deployment of M-X that takes advantage of the fratricide effect. In addition, we are also looking at deep underground basing, ballistic missile defense, and combinations of all three, as basing options.

I will soon be receiving reports and recommendations resulting from those studies. As you would expect, the final decision on this issue will be greatly influenced by questions of M-X survivability, operational and fiscal requirements and deterrence needs. Other important factors are the availability of land areas with the necessary accessibility, proper soil and sub-surface features, and environmental suitability.

While there is still much to be done, the President is committed to reporting to Congress by 1 December 1982 on our recommedations and my department fully supports that commitment. We look forward to the support of Congress as we continue our progress towards the strengthening of a most critical element of our strategic deterrent.

And now Dr. Delauer will elaborate briefly on the status of our M-X basing studies. Following Dr. Delauer's statement, Brigadier General James McCarthy is prepared to give you a slide briefing after which we will entertain your questions.

Thank you.

SUMMARY STATEMENT OF THE SECRETARY OF DEFENSE

Secretary **Weinberger**. I will also respond to some of the points you have made, if I may, but I will probably do that along with paraphrasing my own statement.

There has been some erosion of the defense program since we met last February. In May we did reduce the defense program budget authority by $7.5 billion as part of a larger budget agreement by the President and the Senate Republican leadership for fiscal year 1983.

In the President's judgment—and I fully concurred—those reductions represented the maximum that could be made without seriously delaying or making our defense program more expensive. Any additional reductions would significantly weaken our defense posture.

Further reduction is particularly dangerous to the nation's security, but it has now been proposed by some in their discussion of the Section 302 allocations. Adoption of this proposal would mean a refusal to spend a defense fund previously allocated by the House in the First Concurrent Resolution. This is particularly incomprehensible coming as it does at a time when the threat posed by the Soviets is dramatically increasing.

Mr. Chairman, you spoke about harsh facts and cold reality, and I would like to add a couple more facts to your list. One is that the Soviet threat is increasing. Another is that the defense budget has been designed to eliminate any waste, but it provides the minimum strength necessary to deter aggression and protect the vital interests of the United States. Yet the new reductions that some have proposed under Section 302 allocation would cut our programs not only below the amount that the Congress voted, but at a time when our danger has never been greater.

Since we presented the original program, we have confirmed significant additions to the Soviet inventory that we would like to identify this morning. They have produced 65 more SS-20s. That increases their total to 315 missiles and 945 nuclear warheads.

Three-quarters of those missiles, which have a range of 5,000 kilometers, are targeted on all of the cities of Western Europe. The rest are targeted on Asia. Any of them can be moved in any direction they want and hidden very easily.

They will further increase their strategic capability with a new long-range intercontinental bomber, the Blackjack A which is slightly larger than the B-1. The Blackjack A has begun its flight testing and will probably be operational by the mid-1980s.

In the past five months we have also determined that the Soviets have deployed 60 additional Backfire aircraft, making a total of 200 of these versatile bombers in line units.

In addition, the Soviets have just deployed improved air superiority aircraft in Eastern Europe and they may be about to add a specialized new close air support attack aircraft to their force structure. Their naval improvements include new progress with the SS-N-20 Typhoon missile, important advances in anti-ship weapons and continuing accumulation of evidence that they intend to expand their future sea-based tactical aviation capability.

All of these discoveries made since we presented our defense budget to the Congress suggest that Congress might well be proposing major additions to the defense program instead of chipping away at our currently proposed budget or even cutting it below congressionally approved levels by unilateral committee action.

The Soviet threat should be the ultimate criterion for evaluating whether the defense budget is appropriate. Yet some still say that we should decide the defense budget by asking whether it is fair to food stamps or dredging of harbors.

We have considered the economy—and have made more reductions than many thought necessary to help reduce the deficit. Last September, in response to the President's economic recovery program, we submitted an amendment that reduced outlays by $13 billion and budget authority by $27.7 billion over fiscal years 1982-1984.

Reluctantly the President agreed to reductions again this year for fiscal year 1983, and those reductions have been made. But it is significant, Mr. Chairman, that the House and the Senate, on the floor action, did not even take the full reductions the President suggested, nor did the conference committee on the authorization.

Most economists agree that the effects of increased defense spending will not cause more inflation. Our current industrial base is operating far below capacity, unfortunately, and we cannot ignore the large number of jobs created by defense spending. However, this is not a reason for defense spending.

The only reason for defense spending is the need to meet the threats I have already cited, but we cannot ignore the fact that defense spending does create jobs, particularly with the current high unemployment. If you cut our budget by $10 billion, you will be depriving 350,000 Americans of jobs.

We have worked very hard to bring good, honest business sense to the Defense Department. To purge the legacy of cost overruns we inherited and to improve our weapons acquisition process we have taken management steps that promise greater economy and efficiency.

We estimate that our acquisition initiatives will save $16 billion over the 1981 to 1987 period. We have already taken that into account in making up our estimates as to what is required. But if we return to the start-and-stop spending patterns of the past, as you indicated, Mr. Chairman, we will revive instability in the defense industries and really create waste and inefficiency in the whole-department.

The arguments of those who put defense spending against social spending are rooted in emotion, not fact. The fact is that defense has already taken more than its fair share of cuts over the past decade. It was the major increases in many social programs that forced government spending so high.

This was one of the real causes of the past inflation which robs from everyone—most of all the poor. When President Reagan's defense programs are fully enacted, defense spending will take up about 7 percent of GNP—considerably less than the 9 percent which was standard in the 1950's and 1960's, when the economy was very buoyant.

We must also refute the myth that our defense increases have displaced social spending; in fact, just the opposite is true. For example, during the period 1970 to 1980 defense spending declined 19 percent after adjusting for the effects of inflation compared to a real increase in social and economic spending of 122 percent during the same period.

Under President Kennedy defense spending was 44 percent of our budget, while social spending had only a 25 percent share. Today the situation is almost reversed: Defense is down to 26 percent of the budget, and social programs consume 37 percent of the total.

Let me point out another response to your statement, Mr. Chairman. I don't think spending per hour is the critical question. The question is what do we need and what is the Soviet threat. You mentioned the $1.6 trillion figure that is to be spent by Defense over the next six years.

To keep things in proper perspective it should be pointed out that the spending of other departments of the government during the same period will total nearly $2.6 trillion. At no time will defense spending under the President's program ever exceed 29 percent of the total budget.

We cannot, as you said, cut readiness, and we cannot risk in a most dangerous way the nation's future security in the face of one of the gravest threats that the nation has faced.

We cannot cut readiness, as you said, because that would fail to compensate or to train or supply our personnel as we did during the seventies. We can't skimp on spare parts or ammunition. Some might be tempted to further reduce the modernization accounts. I think you excluded that option in your statement, quite correctly.

We have already made very difficult decisions that trim some of the modernization programs. If we move to defer or stretch out the remaining ones, we would be returning to the instability and after the waste of the past, and all our promising initiatives to obtain economies and efficiencies on which we are counting to save money, particularly with multi-year procurement, proper production rates, etc., would all be undermined before we could even get started.

We certainly should not contemplate tampering with our strategic modernization. I will spend a little more time and detail on that one when we come to the MX.

President Reagan made a commitment to revitalize our strategic deterrent that brought the Soviets to the negotiating table and the nation is entitled to that. If the nation is subjected to even more reductions in defense, then, you pointed out, we should cancel certain force structure increases.

Mr. Chairman, there aren't any force structure increases, unfortunately. If you wish to make reductions this way, we would have to reduce the existing force structure. We would have to deactivate an Army division or two and maybe two air wings and decommission some Navy ships that are planned to come on line—or decommission some that are on line before it is time to take them off.

If we did that, at least we would not be returning to the hollow force of the earlier years, but we must recognize that a smaller force has to have a smaller mission. This raises the question of what commmitments we should give up.

What are we willing to forego? Should we give up Europe? Should we give up Japan? Should we give up Korea? Should we give up the Caribbean, the Mideast, or the defense of the continental United States? These are commitments that we have.

These are commitments that our force structure is designed to try to work with in connection with our allies, and if we reduce the force structure, we have to have a smaller mission—which is another way of saying we have to give up some of the things we are trying to do now or expect and hope and need to do in the future.

There are no avenues for reductions that are not painful, that are not detrimental to protecting America by re-arming in time. We know the pressures on the Congress are great, but the stakes are also great. It is a time to set proper priorities. The margins of safety are very close, and the room for error is extremely limited.

Your support of the President's defense program would send a signal that the American people are waiting to hear. It is a signal that will be heard loud and clear in the Kremlin, at the negotiating table in Geneva and throughout a world waiting to hear that once again America intends to do whatever is necessary to preserve peace with freedom.

With respect to the MX, I don't know if your plan is to close the hearing on the MX or not. If it is, I will defer to that and report myself ready to try to respond to your questions. To review your comments you said no cuts in readiness and I agree with that, You said reductions by shaving down are not going to work, and I agree with that. You said there are only two other choices: One is to cut force structure, and I commented on that. The other is to cut out items like the MX, B-1, F-18s, Trident submarines, or things of that kind. This would, first of all, interfere seriously with or actually prevent, the modernization of our strategic forces in spite of the strategic gap in existence. We cannot allow that kind of position to continue if we are to maintain a credible deterrent.

You spoke about the need to cut out various billions from the 1983 bill, but we submit that has been done, Mr. Chairman. That was done when we took the adjustments into the authorization committees, and that is taken care of by the authorization bill which will shortly be voted on when the conference report comes before the Congress.

So we come before you this morning with the threat growing, a threat that has never been greater, and with the basically modest response we are making—that is, doing what is essential to start the foundation work and complete it in time, doing it within the President's guidance, and doing it at a lower amount than we originally requested in the face of a situation in which defense has been so drastically cut and neglected over the past decade.

IMPACT OF CUTS ON THE FISCAL YEAR 1984 BUDGET

Mr. **Addabbo**. Mr. Secretary, as I said before, these were possibilities and not indications what the committee would be doing, but these are possibilities if we are going to meet our responsibilities as far as the 302 allocations are concerned, because the 302 allocations decided by the Appropriations Committee, was detailed and not just a haphazard thing.

We have those guidelines which we must face, and, I was hoping that you, having looked at the 1984 budget, might give us—and you will have plenty of time before markup, because we don't know when markup will be—to give us some indication what programs might be affected in the 1984 budget so that we don't waste money in the funding programs.

Secretary **Weinberger**. We certainly don't want to waste anything, sir. That would be contrary to all of the things I have tried to do since I entered government service. It would be totally against what we want to do. Our worry is whether we will be doing enough and in time because we don't know how much time we have.

As far as 1983 is concerned, the cuts that you mentioned have already been taken. As far as 1984 is concerned, we have indeed spent a great deal of time working on the 1984 budget but it is, of course, only a proposal to go to the President, and at this point we aren't able to go into any conclusions because no conclusions have been reached.

There won't be any conclusions or disclosure on that proposal until the President has decided what he wants to submit to the Congress, but we don't have, Mr. Chairman, any way in which we can safely suggest to you any reductions. What I am talking about in the 302 allocations is an appeal to you and this subcommittee, to urge the full committee not to go ahead with what we think is an extremely dangerous course for America by trying to make further cuts after the Congress has already allocated the sums that it felt proper.

Mr. **Addabbo**. The full committee has acted, and the 302 allocations have been made. In general, you stated that $10 billion creates 350,000 jobs, but, if we look at the economics and what it costs to create a job in defense and what it costs to create a job in the private sector, we find that we could create more than 350,000 jobs in the private sector, and we have cut more than that by the reduction in CETA.

You mentioned the increase in forces. You are going from a 12-carrier force to a 15-carrier force. That is increasing forces. You are asking that Congress modernize the air defense forces with F-15 aircraft. There are so many increases that we see in this budget and in the out years. The question is whether to fund those programs. Do we have enough dollars or will there be other programs which will suffer. The question is: Are you going to continue the same old concept where you are not realizing cost-effective purchases, where you have recommended reducing economical orders, and we are back to the old system we found to be the most costly of having hills and valleys in our procurement programs?

Secretary **Weinberger**. Mr. Chairman, the only reason we have reduced any buys is because we had reductions made in our total funding. We haven't reduced buys by choice. We haven't reduced buys to buy into a program.

Mr. **Addabbo**. I didn't say by choice. By necessity.

Secretary **Weinberger**. By actions of the committees and by actions of the Congress. That is the only reason why that has been done, and it has been done very sparingly because we are very conscious of the need to maintain adequate and efficient production rates.

But what you are talking about or what some have suggested would require much deeper cuts in production and that would add greatly to the ultimate cost. This is the point we have argued repeatedly.

As for force increases, we don't have any that are scheduled for 1983. We are talking about ultimate additions to strategic strength and naval strength that will be required in the out years.

Mr. **Addabbo**. Turning to a statement you made on August 12 at San Diego, California. You said, "Much of this year's defense spending is determined by prior commitments and by the minimum requirements for daily operations by the military services."

Secretary **Weinberger**. Right.

IMPACT OF REDUCTIONS ON FUTURE OUTLAYS

Mr. **Addabbo**. In the same speech you said, "Even very large cuts in procurement budget authority would yield only modest outlay savings in the budget year."

Secretary **Weinberger**. That is correct.

Mr. **Addabbo**. "Elimination of the B-1, MX, cruise missiles, two nuclear carriers, and one Trident submarine which accounts for about $19.4 billion total obligation authority, would yield only $3.4 billion in outlay savings in fiscal year 1983."

Can you tell the committee or supply for the record what the outlay savings would be if these same eliminations would continue in fiscal year 1984-85?

Secretary **Weinberger**. I can get it. What it would mean would be just the continued additions until the authorization figures are used up, but the outlay reductions in the first year, of any of these large programs is very small. What you do when you cut the authorization for those programs is not only delay but sometimes permanently destroy the opportunity to regain the strength that we need to have. If you kill B-1, MX and Trident, we would be putting ourselves in a position where even though ultimately we would need them, we would have dangerously delayed in getting them because the Soviets would already have a strategic advantage. At the same time you would be signaling to them, the world, and our allies that we don't have the resolve, the will, or the capability to regain strategic parity.

[The information follows:]

An outlay savings of $5.2 billion in fiscal year 1984, and $32 billion in fiscal year 1985 would result if the B-1, MX cruise missiles, the two nuclear carriers and one Trident submarine were eliminated.

Mr. **Addabbo**. There are other alternatives, as you know, Mr. Secretary.

The President has nominated, as you know, Martin Feldstein to be the new chairman of the Council of Economic Advisers. In an article on August 15 in The Washington Post, it was stated: "Feldstein now has joined other experts who believe that the huge budget deficits now in prospect as a result of Reagan's initial tax cut bill and projected defense buildup are damaging the economy."

Do you believe that Dr. Feldstein and the other experts are mistaken in this regard?

Secretary **Weinberger**. I don't know whether they are or not. Dr. Feldstein is a Harvard graduate, and it is hard for me to feel that he is wrong about anything, but I haven't heard him say this specifically. But even admitting or stating that he is correct has no effect on the amount that should be spent for defense. That amount, Mr. Chairman, is the amount that is required by the threat, and the threat is growing all the time. We have a situation in which 51 percent of our defense budget goes for personnel costs, and another 40 percent goes for past commitments and normal operations. This is what I was referring to in that talk you mentioned. The result is that we get about seven or eight cents from each dollar for new programs to meet this growing threat. The comparable Soviet figure for personnel costs is 16 percent; so they get a great deal more for their additional investment than we do.

Now we don't say that we should change and reduce salaries or anything of the kind. Defense is a very expensive business. So is the loss of freedom.

DEFENSE BUDGET INCREASES

Mr. **Addabbo**. You keep talking about the threat. How far is an overkill? As we look at the various dollars that we have spent in past years, and we look at the proposed 1983 increase in the defense budget, this has been exceeded only once since World War II and that was at the height of the Korean War.

This peacetime defense budget is almost $20 billion higher than our highest defense budget during Vietnam. Now if the economic situation continues to deteriorate and fiscal realities dictate that further reductions be made in federal spending to lower the enormous deficits, would you then be willing to offer up some defense programs in the interest of fiscal prudence?

Secretary **Weinberger**. Mr. Chairman, they have already been offered up. The point I have been trying to make in my opening statement is, first, we have a decade of neglect. Second, we had $13 billion taken out of the President's program in outlays and $27 billion in authority last September.

This year we had roughly another $7.5 billion in authority and roughly $5 billion in outlays taken out of 1983 alone. Defense has offered up cuts, and they have been made. But we can't keep chipping away at it, or we will get it down below the levels that even President Carter was talking about and his program was seriously underfunded; it could not have been built for the amounts he mentioned. So we are in a situation, with a growing threat, with two major cuts in the proposed program of the President, and with a decade of neglect behind us, we have a situation where we can no longer make suggestions for additional cuts and still fulfill our responsibilities to the President and to the people.

CONSOLIDATION OF PROGRAMS

Mr. **Addabbo**. You have the MX, a Trident II missile, the B-1, and the ATB. There are other ways and places where you can possibly look at that budget—certain consolidations that could be made within the military, and many items this committee has recommended.

Secretary **Weinberger**. If I could just mention one thing. I don't want to interrupt you, Mr. Chairman, but we did try to make a major consolidation in transportation, and unfortunately that was not approved by the committees or by the Congress.

We have had the same basic result with attempts to consolidate logistics. We have made very substantial reductions in such things as recruiting and various other areas where we are consolidating as much as we can.

The services have different missions, and they are not by any means totally duplicative; so a total consolidation isn't possible. Naturally we are always anxious to find more opportunities for savings that will not result in a reduction of firepower. That is essentially what we are trying to do, and I think we have been reasonably successful for the last eight months.

JOINT CRUISE MISSILE PROJECT

Mr. **Addabbo**. Talking about raising increases, actually in the Carter years, 1976 to 1980, defense spending rose 6.2 percent in real terms. In discussing the consolidations, I read recently that Rear Admiral Locke had been relieved as Director of the Joint Cruise Missile Project. This has been an ongoing program which has had the support of the Congress and the committee.

A joint missile program with Navy and Air Force, and as usual we know the Navy and the Air Force always like to have their own missiles. With the removal of Admiral Locke, will that joint cruise missile project be eliminated and each service allowed to go off on its own?

Secretary **Weinberger**. No sir.

Mr. **Addabbo**. Or will that joint program——

Secretary **Weinberger**. No, there is no suggestion of that. Admiral Locke had been in charge of that program about six years, and to be perfectly frank about it, we had considerable question as to the quality control aspects of that joint program. We are trying to improve that, and get the missiles deployed as quickly as possible.

But there is no suggestion that there is to be any change in that basic mission. It is just to try to carry it out a little better than it has been carried out. That is our goal.

Mr. **Addabbo**. But it will be continuing as a joint program?

Secretary **Weinberger**. Yes sir.

Mr. **Addabbo**. The gentleman from Alabama.

Mr. **Edwards**. Thank you, Mr. Chairman.

Mr. Secretary, it is nice to have you before us today.

Secretary **Weinberger**. It is good to be back, sir.

ADMINISTRATION'S DEFENSE CUTS

Mr. **Edwards**. I listened with great interest to the opening remarks of the Chairman and he has laid out some pretty serious problems we face in this country and I guess the big question is how much of that problem is solved by cutting the defense budget.

That is what we are all getting down to as we come to the end of this session.

I would like to try to get in my own mind some clearer understanding of what you are saying. You talk about cuts that have already been taken in the defense budget.

It is my recollection that the President proposed a $43.7 billion increase in budget authority for fiscal 1983, is that correct?

Secretary **Weinberger**. Over 1982, actual?

Mr. **Edwards**. Yes.

Secretary **Weinberger**. I think that is about right.

Mr. **Edwards**. So that when you speak of cuts that have already been taken, I wonder if you would outline those cuts as they apply to the $43.7 billion?

Secretary **Weinberger**. I am speaking of reductions from the amounts that the President initially stated to the Congress and to the people as those he felt would be the minimum necessary over a five-year period starting in February or early March of 1981, shortly after he took office.

From those figures he reduced his request by $13 billion in outlays and roughly $27 billion in authority in September 1981. Then he addressed specifically the 1983 budget which he submitted in February to the Congress.

In accordance with those figures, he reduced roughly another $7.3 billion in authority and roughly $5 billion in outlays from that 1983 budget. These are the cuts we are talking about.

These are reductions from the amounts that the President initially submitted—reductions which I think it is entirely fair to say he reluctantly agreed to accept because of the overall economic situation.

To take any more we feel, and he feels, would be extremely dangerous to the need of the country to rearm and to rearm in time.

Mr. **Edwards**. So when you speak of those cuts then you are speaking of cuts from what I recall was the 1.64 trillion dollar five-year projected defense budget authority number that was set out by the Administration.

Secretary **Weinberger**. Yes, that is the one that I referred to in my statement as being $2.6 trillion for the other agencies of the federal government.

Mr. **Edwards**. I understand that, but the cuts you are talking about, $27 billion and $7.3 billion, were cuts against the $1.6 trillion?

Secretary **Weinberger**. Against the original programs that he submitted for the first years of that program, yes, sir.

Mr. **Edwards**. As supplied to the——

Secretary **Weinberger**. $1.6 trillion is in budget authority.

Mr. **Edwards**. That is right.

Secretary **Weinberger**. Yes.

Mr. **Edwards**. That is what I am talking about.

Secretary **Weinberger**. Yes.

Mr. **Edwards**. I still have trouble dealing in outlays with one billion, but I will learn all that.

The $43.7 billion increase, 1983 over 1982 then, there you are talking about a cut that you have taken of $7.3 billion in budget authority, is that right?

Secretary **Weinberger**. I am not quite sure about the foundation of your $43.7 billion figure, but the President submitted a budget for fiscal 1982. That budget was enacted almost completely by the Congress. He submitted a budget in fiscal 1983 which involved two reductions in the amounts that he had previously stated to the Congress he would seek.

One of those amounts was part of the $13 billion cut in outlays or $27 billion cut in authority; and the second one this May, amounted to another $7.3 billion in authority. Those were the reductions that he sought in the 1983 budget.

Mr. **Edwards**. I don't want to wear this subject out, but I really don't think you are answering my question. Perhaps it is because I am not asking it right.

Secretary **Weinberger**. We are certainly going to try.

Mr. **Edwards**. You submitted a budget in fiscal 1983?

Secretary **Weinberger**. Yes.

Mr. **Edwards**. For so many dollars in budget authority?

Secretary **Weinberger**. Yes, in February.

Mr. **Edwards**. Is that budget still before us or is it reduced?

Secretary **Weinberger**. Maybe the problem, Mr. Edwards, is that the budget submitted in February, 1982, for fiscal 1983 was a budget which the President had said in March 1981, should total about $5 billion higher. He made the reduction from the amount that he said in 1981 would be necessary. He made that when he submitted it in 1982. All I am saying is that he made two reductions in the amount that he originally suggested in 1981 for fiscal 1983. The second of those reductions was made in May this year after he had submitted the 1983 budget of about $7.3 billion in authority. That is the amount which the authorization committees were working on. Their conference report not yet voted on, as you know, is out, and it comes very close to that revised amount that the President submitted.

Mr. **Edwards**. The second reduction you speak of, was that in the form of a budget amendment?

Secretary **Weinberger**. Well, it turned into practically that. We submitted adjustments to the authorization committees that reduced that amount, and the authorization committees did not accept the full amount of the reductions, but I went before——

Mr. **Edwards**. I didn't understand that you really supported that list.

Secretary **Weinberger**. Oh, yes.

Mr. **Edwards**. Of cuts.

Secretary **Weinberger**. It was the President's decision.

Mr. **Edwards**. I thought you——

Secretary **Weinberger**. No.

Mr. **Edwards**. You gave that to us—sort of suggested that if you just had to give us some cuts that is what you would give us.

Secretary **Weinberger**. That was before the President's formal decision. Once the President made his formal decision, not at all surprisingly I supported it.

Mr. **Edwards**. I think when we go back and read the record to this point, that none of us are going to know what we are reading. I suppose that is my inability to ask the question right, but——

Secretary **Weinberger**. I will be glad to try any way you want, sir. I thought I had answered it. What is it that I am not answering?

Mr. **Edwards**. We are sitting here looking at the President's budget. You keep telling me he has cut it and I can't figure out where it has been cut.

Mr. **Hefner**. Will the gentleman yield?

Mr. **Edwards**. Yes. I yield, if you can ask the question better.

Mr. **Hefner**. I think from the way I understand it, which is not very good probably, what I think they are saying is, they cut it before you sent it over here.

Secretary **Weinberger**. Yes, sir.

Mr. **Hefner**. What I am saying, they said this is what we have to have. We are going to cut it before we send it over there, but it hasn't been cut since we received it. That is the point you are making.

Mr. **Edwards**. Yes.

Mr. **Hefner**. They cut it before they sent it over here.

Mr. **Edwards**. That is what I am trying to get at.

Secretary **Weinberger**. Let me try it again. The President submitted a budget to the Congress in February this year. From that submitted budget——

Mr. **Edwards**. That is the same budget he submitted on everything else in government?

Secretary **Weinberger**. Yes sir, his overall government budget, including defense.

From that figure, by agreement with the President, at his instruction, and with our concurrence, we submitted what amounted to budget reductions to the authorization committees. The authorization committees acted in response to that.

I submitted a list of things regarding the way we could do it. They accepted some and not others, and they came out with a figure which is in the conference committee report, but the President——

Mr. **Edwards**. That is what you are saying the President accepted?

Secretary **Weinberger**. Yes sir. He accepted, but we went before those committees with a list and asked the committees to authorize less than we had actually requested in February.

Mr. **Edwards**. I am going to raise just one further point and then I am going to move on.

I am looking at the supplemental appropriations for 1982 hearing record, part 3, Department of Defense, where the subject of that list came up, and Mr. Dicks asked you, "Why do you do it for the Senate and not for the House," and you said:

> Because it was part of an overall compromise agreement that the President reached with the Senate Budget Committee, and the consideration for it was the reduction of spending of a number of other items not connected with our department.
>
> We can certainly make the list available, and we did so for the House Armed Services Committee.
>
> We are perfectly willing to do it for this committee. It is a difficult position for me to be in. While I am making the list available, I am not endorsing it and not recommending it except in the context of a full scale compromise.

And so forth.

Secretary **Weinberger**. That is right. At that time, Mr. Edwards, we didn't know whether the other portions of the compromise the President offered had been accepted or not and his offer was contingent upon those other things being accepted.

Mr. **Edwards**. I am going to move on. Maybe somebody will want to pursue that.

Mr. **Addabbo**. Will the gentleman yield?

Mr. **Edwards**. Yes.

OFFICIAL BUDGET AMENDMENT

Mr. **Addabbo**. At this point in time, Mr. Secretary, there was a discussion as to whether this list would be made part of our record. However, I placed the list in the record. But at this point in time, since the submission in February of the President's budget, there has been no formal amendment to the budget to this committee or to the Congress, is that correct?

Secretary **Weinberger**. I don't know of any formal amendments. But there certainly have been the actions that I have discussed exhaustively with Mr. Edwards.

Mr. **Addabbo**. Has an amendment been sent up? You could say you made recommendations. What we are trying to do with you today is have you give us something informal. But a change in the President's budget can only be done by a formal amendment from the President?

Secretary **Weinberger**. That is right.

Mr. **Addabbo**. And there have been no formal amendments.

Secretary **Weinberger**. I don't believe that formal document has come up.

Mr. **Addabbo**. So what is before us is the original 1983 budget?

Secretary **Weinberger**. That is correct.

Mr. **Addabbo**. Subject to authorization?

Secretary **Weinberger**. But with all of the knowledge, background, and record that has been made as to the President's willingness to take those additional recommendations which at the same time was part of a larger agreement that he had with the Senate leadership.

Mr. **Addabbo**. Will the gentleman from Alabama yield?

Mr. **Edwards**. Yes.

Mr. **Addabbo**. The gentleman from Pennsylvania, Mr. Murtha, has a motion.

MOTION AND VOTE TO CLOSE HEARING

Mr. **Murtha**. Yes, Mr. Chairman. I move those portions of the hearing today on the MX basing mode and the hearings tomorrow on reprogramming and the markup to be followed be held in executive session because of the classification of the material to be discussed.

Mr. **Addabbo**. The Clerk will call the roll.

Mr. **Murphy**. Mr. Addabbo.

Mr. **Addabbo**. Aye.

Mr. **Murphy**. Mr. Chappel.

[No response.]

Mr. **Murphy**. Mr. Murtha.

Mr. **Murtha**. Aye.

Mr. **Murphy**. Mr. Dicks.

[No response.]

Mr. **Murphy**. Mr. Wilson.

Mr. **Wilson**. Aye.

Mr. **Murphy**. Mr. Hefner.

Mr. **Hefner**. Aye.

Mr. **Murphy**. Mr. Ginn.

[No response.]

Mr. **Murphy**. Mr. Whitten.

[No response.]

Mr. **Murphy**. Mr. Edwards.

Mr. **Edwards**. Aye.

Mr. **Murphy**. Mr. Robinson.

Mr. **Robinson**. Aye.

Mr. **Murphy**. Mr. McDade.

Mr. **McDade**. Aye.

Mr. **Murphy**. Mr. Young.

Mr. **Young**. Aye.

Mr. **Murphy**. Mr. Conte.

Mr. **Conte**. Aye.

Mr. **Addabbo**. A majority having answered in the affirmative, the hearing at the point of the MX will be closed. The hearing will be closed.

The gentleman from Alabama.

FORCE STRUCTURE

Mr. **Edwards**. Mr. Secretary, would you tell me exactly what is meant by the term "force structure?"

Secretary **Weinberger**. The number of divisions we have, the number of tactical air wings, the number of ships in active service. The number of Marine units, things of that kind.

Mr. **Edwards**. Then when you speak of force structure, do you include within that designation or within that term the weapons systems that are required to support that structure, or is that a separate kind of an item?

Secretary **Weinberger**. Force structure normally refers, in my understanding, to the number of units that are involved, and they all have various weapons systems that they are equipped with under tables of organization.

Mr. **Edwards**. To get more specific, does an aircraft carrier become a part of the force structure of the Navy?

Secretary **Weinberger**. Yes.

Mr. **Edwards**. So when you speak of force structure then, as proposed by the Administration, you speak of so many carriers in addition to men?

Secretary **Weinberger**. Yes.

Mr. **Edwards**. You speak of so many carriers, so many air wings?

Secretary **Weinberger**. That is right, and the men and women necessary to man them.

Mr. **Edwards**. So that in fact I don't want to put words in your mouth, but when we speak of Trident, B-1B, C-5B, carriers, tanks, is that all a part of the force structure in the normal Pentagonese?

Secretary **Weinberger**. No.

First of all, not until they are deployed of course. Some of it is modernization of existing forces. Some of it involves taking older things out of service in order to bring newer things on. But if you are trying to reach the point about increases in force structure, very few increases in force structure are contemplated in 1983. There is modernization however. This involves substituting newer tanks for older tanks.

It also involves better equipment for National Guard units. There are increases in airlift from what we have but very few, if any, actual increases in force structure.

Mr. **Edwards**. Are the two nuclear carriers increases, or are they substitutes?

Secretary **Weinberger**. The authorization for those would be, I believe, maintaining roughly what we have because of the expected ship life expectation of the ones that are there, but their authorization is requested this year.

The actual carriers unfortunately will not come on service for six to seven years.

Mr. **Edwards**. How do you get then from 12 to 15 carrier task forces, if you are in fact just substituting?

Secretary **Weinberger**. We don't. We go to 14 in about 1987, and you do it with the two new ones that we have requested.

You are taking two out of service by that time, and you will probably have one that will stay in service longer than had been originally planned.

Mr. **Edwards**. So you are doing more than modernization?

Secretary **Weinberger**. The two new ones that are sought this year are modernization under our terminology.

Mr. **Edwards**. I yield.

Mr. **Addabbo**. The gentleman from Pennsylvania, Mr. Murtha, for ten minutes.

REVENUES TAX CUT DEFENSE SPENDING

Mr. **Murtha**. Mr. Secretary, isn't our problem going clear back to the tax cut that you and I discussed the first time or second time you appeared before the committee? Isn't that really our problem?

The revenue is just not there, and when the decision was made in Congress, for instance, in the 302 allocation, which passed this committee by 29-17, the facts are that defense is going to be hurt because the revenues aren't there, which goes back to that original tax cut.

Secretary WEINBERGER. Mr. Murtha, the revenues are there. It is a question of the decision to spend them, and the Congress, in the concurrent——

Mr. MURTHA. Wait a minute. The revenues are there, and yet you are advocating a tax increase?

Secretary WEINBERGER. The President and we are advocating the current tax bill that is before the Congress. The rationale for that is, as you know, that a comparatively small portion of the bill is actually new revenues. The bulk of the funds comes from improved collection and enforcement procedures.

Mr. MURTHA. The point is, Mr. Secretary, if we hadn't had that mammoth tax cut or we could have delayed the third year, for instance, we wouldn't have these problems.

I predicted that we were going to have problems, as I predict if we pass a balanced budget amendment the first thing that will be cut is defense.

Now, are you advocating that we pass the tax increase?

For instance, would you recommend to me that I vote for this tax increase?

Secretary WEINBERGER. It is not my department, Mr. Murtha, but since you have asked, the answer is yes, I would.

Mr. MURTHA. Would that help defense if we do. There are those of us who are going to probably have to vote for it, but an awful lot of people that voted to cut the other taxes don't want to vote for it.

Secretary WEINBERGER. Let me go back to a bit of history if I might. Without any reference whatever to the revenues, tax increases, tax cuts or anything else, defense was cut over the years as I indicated in my statement, and domestic spending was increased by enormous amounts. I would suspect that regardless of whether you had more revenue, or the third year tax cut, or any of those other things, there would still be the same voices crying to cut defense spending; not yourself, but others.

Mr. MURTHA. Mr. Secretary, we don't deal in philosophy. We deal in the practical politics of getting a vote on the budget. You saw the other day the one percent cut in Defense passed very handily on the floor.

Secretary WEINBERGER. Yes.

Mr. MURTHA. I voted against it. I don't know how many, there were probably sixty of us voted against it. That wasn't even balanced against anything else. That was just a straight cut on the floor not compared with anything else. That is what concerns me.

Secretary WEINBERGER. Your support of defense has been very solid over the years and appreciated by people whose responsibility this is, but as far as the available revenues are concerned, the available revenues are there and can be used in any way that the Congress decides.

Our point and the President's point—is that there is a very, very high priority for defense to have the revenues that he has requested this year and in subsequent years.

Mr. MURTHA. Mr. Secretary, I agree with that priority, as you know, but what I am saying is, we have to raise revenue.

Now, would you make the statement that if we don't pass this tax bill, it will ultimately hurt defense?

Secretary **Weinberger**. My feeling about the tax increase is simply that it is an additional amount that can be raised with very little new taxes. I don't think the relationship to defense is in any way clearly established.

Mr. **Murtha**. You are saying that the people who strongly support defense should not necessarily vote for the tax increase.

Secretary **Weinberger**. Oh, no. I am saying the tax increase should be supported.

Mr. **Murtha**. Yes, and I think it is going to hurt defense, and I wish you would say that because then I can say that the Secretary of Defense said it.

Secretary **Weinberger**. Mr. Murtha, you are perfectly entitled to say it without any endorsement from me.

Mr. **Murtha**. But your opinion has so much more weight than mine.

Secretary **Weinberger**. It is not an opinion which is often expressed either inside or outside this room.

Mr. **Murtha**. Would you go as far as to say that if this tax bill doesn't pass, there is a danger that defense would be cut even more?

Secretary **Weinberger**. I would say, Mr. Murtha, that there are always large numbers of people who are hunting around eagerly for ways to cut defense. If the tax bill doesn't pass, they might be given some additional ammunition.

Mr. **Conte**. Will you yield, Mr. Murtha?

Mr. **Murtha**. Yes.

Mr. **Conte**. I think the questions you are pursuing are very, very delicate because I can see if the Secretary says, yes, if the tax bill goes through it is going to help defense; it is going to give somebody else just another reason to vote against the tax bill.

Mr. **Murtha**. But many of the people that voted for the tax cut, Silvio, last year are the ones who are going to vote against the tax increase at this point, and my prediction is that will hurt.

But I see what you are saying.

Mr. **Conte**. Those are the same guys who say we have got to cut the budget further, and they voted against putting a four percent cap on the cost of living for federal employees, which would have saved $5 billion, the same ones.

Look at the roll call. There is no consistency with that group. They are now running for President.

Mr. **Addabbo**. The time of the Secretary is limited. He must leave at twelve o'clock.

C-17/C-5 LETTER

Mr. **Murtha**. I will submit a letter from the Secretary for the record on the C-17 and the C-5. Mr. Secretary, do you still feel the same?

Secretary **Weinberger**. Yes sir.

Mr. **Murtha**. Just for the record will be fine.

Secretary **Weinberger**. Yes fine.

[The letter follows:]

THE SECRETARY OF DEFENSE
WASHINGTON, THE DISTRICT OF COLUMBIA

4 JUN 1982

Honorable Joseph P. Addabbo
Chairman
Subcommittee on Defense
Committee on Appropriations
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

I am disturbed by the Senate action on the department's funding requests for the C-5B program. There is an immediate need for additional outsize airlift capability. The quickest way to gain this capability is through the program proposed in this year's budget. Failure to fund the C-5B dangerously delays resolution of this critical need.

I have heard C-5B acquisition referred to as an interim measure. It is not an interim program: it is the key first step in a long range program to provide our general purpose forces with sufficient airlift to meet their combat mobility requirements. The C-5Bs, along with the rewinged C-5As, will be the mainstay of our strategic airlift force well into the 21st century.

It is true that all our airlift needs are not outsize in nature. Non-outsize capability is both useful and necessary; however, that type of capability is also needed in the commercial sector. To the extent that we can access that capability in an emergency and at the same time avoid peacetime operating costs, we are obligated to do so. Ideally, the Department of Defense would own and operate only the type of airlift asset which it cannot obtain from the commercial sector through the CRAF program.

I believe there are some misunderstandings concerning the nature and purpose of the C-17 program. The C-17 is not a competitor for the C-5B to meet our immediate need for outsize capability. It is part of our long-term plans which necessarily include gaining some outsize intratheater capability and replacing the C-141 and some C-130 aircraft beginning in the 1990s. The initial phase of the C-17 program explores technology which will benefit any follow-on airlifter. This low level development work will point toward a full-scale development decision in the latter half of this decade, which would make operational deliveries possible in the early 1990s.

Again, I would like to stress that the need to begin the C-5B program is urgent. Further delay in redressing our outsize airlift needs cripples our ability to project forces in the last half of this decade and beyond. Your support of our airlift program is vital.

Sincerely,

The Department of Defense position concerning the C-5B and C-17 programs stated in the 4 June 1982 letter to the Committee Chairman has not changed. The letter is appropriate for the current Committee hearing record.

Mr. **Addabbo**. The gentleman from Texas for ten minutes.

Mr. **Wilson**. Mr. Secretary, I want to compliment you on your statement and welcome you here.

Secretary **Weinberger**. Thank you.

Mr. **Wilson**. I think your philosophy and mine are basically the same; that is, if the defense mission fails, then all else is rubbish.

Secretary **Weinberger**. That is right.

B-1S FOR THE NAVY

Mr. **Wilson**. I am curious about a couple of things that only you could answer. One is the Backfire bomber. I believe that half of them are allocated to the Soviet Navy. The United States Navy has testified that they consider the Backfire to be the greatest threat to the fleet rather than the Soviet submarines.

Has anybody ever suggested that some of the B-1s be allocated to the Navy?

Secretary **Weinberger**. I never heard any suggestion so revolutionary. We hope, in all seriousness, that the total mission of the defense of the United States would be carried out in such a way that the operational requirements for the B-1B, when it comes on line, would be directed to protect the fleet, to protect whatever is its proper mission.

Its basic role is strategic. It will also have conventional capabilities, but to the best of my knowledge nobody has suggested putting B-1Bs under the operational control of the Navy.

Mr. **Wilson**. On the social program thing, something occurred to me that I think we all should get straight. I really don't know, but under President Kennedy 44 percent of the budget was defense. I remember under President Eisenhower 50 percent of the federal budget was defense.

Secretary **Weinberger**. Yes.

Mr. **Wilson**. In all fairness to the other side, to the chairman, I don't believe that Social Security was included in the overall budget at that time. I believe the Social Security was included after Johnson was President. Because it has a surplus in it. He was trying to make the deficits look smaller.

Secretary **Weinberger**. Whether it was formally done or not, they should include those amounts. My impression is that they do.

Mr. **Wilson**. They weren't in the budget as submitted?

Secretary **Weinberger**. You are right. The budget itself was a much narrower document then. The Budget Act came in about 1968, I believe, and required that the budget include so many more of those things.

Mr. **Wilson**. They all had surpluses in them.

Secretary **Weinberger**. That is right, and then gradually over the years more and more have been taken out of the budget, like Export-Import Bank and things like that. I think the figures for Social Security are included in the computation of the 44 percent, but we can certainly find that out for sure.

There is no question at all in the basic premise—that is, that a great deal larger share of the total budget went to defense than goes to it now.

[The information follows:]

In fiscal year 1960, national defense accounted for 49 percent of total outlays of the Federal Unified Budget. This percentage dropped to 44.5 percent in fiscal year 1964. The Federal Unified Budget includes figures for Social Security and are thus part of the computation of the 44 percent.

Mr. **Wilson**. Finally, I would just like to offer my sympathy to you on efforts that are made to consolidate to save money that are thwarted by the Congress. We can't even combine helicopter maintenance or helicopter training because of provincial concerns.

I am certainly sympathetic to that problem. I had one naval base in my district. I recommended it be closed. It was closed to the great satisfaction of everybody and nobody had a heart attack or died of cancer or anything else as a result.

Secretary **Weinberger**. If you will permit me to say so, sir, we could use you in the Pentagon.

Mr. **Addabbo**. The gentleman from Virginia, Mr. Robinson, for ten minutes.

Mr. **Robinson**. Thank you, Mr. Chairman.

I would also like to join my colleagues in welcoming the Secretary before us again.

Secretary **Weinberger**. Thank you, sir.

Mr. **Robinson**. It is delightful to have you back. I apologize for not being present when you made your original statement.

APPEAL TO THE AUTHORIZATION COMMITTEES

Mr. Secretary, you know the gravity and difficulty that this committee faces. We are going to have to find a way to cut several billions of dollars out of budget authority from your fiscal year 1983 request, based on the budget process, and the Congress needs your help in making these cuts and help hopefully at least in the most constructive way.

For that reason, I would ask you to explain your recent recommendations concerning the fiscal year 1983 authorization bill. The conferees are addressing House reductions of approximately $8.6 billion. The Senate reductions are approximately $6.7 billion. These are to O&M procurement and R&D requests that I guess total about $184 billion.

Your appeal to the Senate dated August 3 asks restoration of a total of $7.43 billion, I believe. Your letter does not suggest alternatives for offsetting reductions. As a consequence, if your recommendations were adopted, the resulting authorization would exceed, as we see it, the maximum possible appropriation under the budget process as we understand it by approximately $10 billion.

What is the purpose of an appeal in that regard, Mr. Secretary, knowing the constraints that are placed upon us by the budget?

Secretary **Weinberger**. Mr. Robinson, what happened was that a great many things were added by the Senate and by the House, and the appeal letter suggested that those additions be dropped. That would bring us out with the amounts within those authorized under the concurrent resolution.

Mr. **Robinson**. Is what you are saying an inference that authorizations greatly in excess of maximum possible appropriations are a good idea?

Secretary **Weinberger**. What I was trying to say was that the appeal letter asked for the elimination of a number of the additions which the House and the Senate put in the bill during the course of their consideration.

The House added $2.4 billion. The Senate added $2.1 billion. Then various cuts were made. We asked that the cuts be restored and the adds taken out.

Mr. **Robinson**. Where would that bring us out?

Secretary **Weinberger**. It would bring us out within the totals that were in the concurrent resolution.

Mr. **Robinson**. We found in the past that the DOD appeals have something of an automatic urging to just restore original congressional cuts. Do you feel that this year's extraordinary problems—and they are extraordinary, I think—should elicit a different set of reactions because of the circumstances prevailing?

Secretary **Weinberger**. Basically, Mr. Robinson, what we have done is to construct as lean and tight a budget as we could, consistent with the threat, and with what we believe to be the needs. There were some reductions that were agreed upon with the President, and they were submitted to the committees informally.

The reductions that were made thereafter by the House or the Senate were below those we appealed. We didn't appeal the cuts. We did appeal the additions that were made. What we tried to do was get the bill back as close as possible to the form in which we had recommended it because quite naturally, we felt that was not only the best balance, but the required total.

Mr. **Robinson**. Do you feel that a right and proper balance has been arrived at between the cuts that were made and additions to the end that you are coming out at a reasonable level with regard to the budget?

Secretary **Weinberger**. In the authorization bill?

Mr. **Robinson**. Yes.

Secretary **Weinberger**. Yes, I think that is right. I have not yet seen the conference committee report. I am not sure it has been written yet, but from the summaries and the discussions that we have heard, we believe that it will bring us reasonably close to the needs for 1983. That is why we feel so strongly about the 302 suggestion, that there will be additional reductions below that.

Mr. **Robinson**. Of course, the appeal asked for the restoration of the $1.7 billion caused by the 1 percent across-the-board cut.

Secretary **Weinberger**. Yes, and the conference committee we believe removed that reduction.

Mr. **Robinson**. And the $1.1 billion on the MX?

Secretary **Weinberger**. Yes.

Mr. **Robinson**. The $800 million on the——

Secretary **Weinberger**. The conference committee didn't go all the way, but the important thing on the MX—and we will be moving on to that part of the hearing in a moment—the important thing about that is to keep the program going so that we will not have a situation in which that missile, the only one capable of destroying hardened Soviet targets, is slowed or stopped in production.

Mr. **Robinson**. Mr. Chairman, may I ask unanimous consent that the copy of that appeal letter be placed in the record at this point so we will have that for reference with regard to the testimony that you are giving us.

Secretary **Weinberger**. Yes, sir.

Mr. **Addabbo**. Without objection, it is so ordered.

[The information follows:]

THE SECRETARY OF DEFENSE
WASHINGTON THE DISTRICT OF COLUMBIA

AUG 3 1982

Honorable John G. Tower
Chairman, Committee on Armed Services
United States Senate
Washington, DC 20510

Dear John,

The Conference Committee will meet soon to consider the House and Senate differences on the Department of Defense FY 1983 Authorization Bill. I am very appreciative of the continuing effort of the Armed Services Committees to provide this country with a strong national defense. This Administration and the Congress have been working together toward this goal and I am hopeful the FY 1983 budget, once it is finalized, will be a major impetus in that direction.

The Military Construction/Family Housing programs are contained in a separate bill; therefore, I will not address those items here. Likewise, the Committees' actions on the National Foreign Intelligence Programs funded in defense appropriations will be subject to separate appeal by the Director of Central Intelligence.

I wish to share my views for Conference consideration on the most significant actions taken by both chambers, as they affect our defense programs and the choices we still have before us.

ACROSS-THE-BOARD REDUCTION

(U) The House has included a one percent across-the-board reduction in the Defense Authorization Bill amounting to $1.7 billion. This method of budgetary adjustment has been tried on past occasions; those experiences have shown this approach to be difficult and unproductive from the legislative as well as the executive standpoint. General reductions cannot express congressional intent about defense programs, nor can they be expected to produce a more effective military capability or mix of forces from our standpoint.

(U) Reductions such as this may well cause us to make quick, near term cuts in readiness and other related programs that lead to much greater long term costs because of the need to correct program imbalances resulting later on. Mandated cuts of this amount may appear small compared against the

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total authorization (i.e., one percent), but in terms of the specific programs actually reduced, the cut can be very large. I urge most emphatically that the Conferees support the Senate position and consider the budget request on individual program merit rather than from the standpoint of proxy reductions.

Some items are funded by both Procurement and Research and Development appropriations. I will address these areas jointly.

JOINT FUNDING

(U) M-X. It is imperative that we not only solve the permanent basing issue, but also begin M-X missile production without delay. The House actions reduced $150 million in RDT&E and $355.2 million in procurement, which cancels two of the M-X basing options, and fenced $715 million of R&D basing funds. However, there remain sufficient funds to accomplish the necessary preparatory work and meet the congressionally directed Initial Operational Capability (IOC) of 1986 with the permanent basing mode selected by the President. The Senate reduction of $482 million in RDT&E and $1,497.1 million in procurement will delay missile production at least one year and eliminate all possibility of deploying M-X in a permanent basing mode by the end of 1986. The M-X will provide more operational effectiveness against Soviet hardened targets than any other U.S. missile system. The M-X program will also place a new Intercontinental Ballistic Missile (ICBM) in production to protect against a Soviet "breakout" in ICBM production. This also provides an incentive for the Soviets to begin serious arms reduction negotiations. It is absolutely essential, for continued strategic deterrence, that the M-X be deployed at the earliest possible time. Therefore, I support the House position for both RDT&E and procurement appropriations.

( ) Ballistic Missile Defense (BMD). The $468 million reduction by the House will seriously impact the active defense option for survivable long term M-X missile basing. The Department will be unable to develop and demonstrate BMD capability in a timeframe that is responsive to the Soviet threat. The drastic cutbacks in our BMD program that followed signing of the ABM Treaty have already resulted in BMD development lagging M-X development, and a reduction of the magnitude approved by the House would delay our development of the SENTRY BMD. In addition, the Soviet Union has maintained an aggressive BMD development and deployment program and, although we have made significant advances in technology, we have not kept pace with the application of our available technology to deployable systems. I urge the Conferees to support the Senate position which reduced our request but still provides sufficient funding to maintain a meaningful strategic defense program.

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(U) B-52 Squadrons/B-52 Modifications. The House reduced our RDT&E request by $61.8 million and deferred $33 million of procurement funds for Offensive Avionics Systems (OAS) kits. The Senate approved our request in both cases. The House action effectively terminates the B-52 reliability and maintainability update which is needed to provide an overall system sufficient to achieve the required probability of mission completion. The radar, in its present state, is the greatest contributor to an unsatisfactory daily B-52 in-commission rate and, if not corrected, the rate will become intolerable by FY 1985. Procurement of spare parts for the current radar is becoming more difficult as the parts are obsolete and no longer in production. The programed update provides an accurate, reliable, operationally effective radar essential for inertial navigation system and cruise missile alignment. The House action also would cause 10 aircraft to cycle through the B-52 Programed Depot Modification (PDM) line without OAS kits being installed. These aircraft would subsequently have to be recycled on a special purpose line. Accordingly, I strongly urge the Conferees to support the Senate's position.

PROCUREMENT

(U) TRIDENT SSBN Procurement. Our request included funds for two TRIDENT (SSBN 726 class) hulls (numbers 10 and 11). The Navy proposed a complex funding plan for the second FY 1983 TRIDENT hull which involved the application of FY 1983 Shipbuilding funds and the later use of FY 1986-1987 Other Procurement and Operation and Maintenance funding. In this manner, substantial savings in TRIDENT I (D-4) strategic weapons systems equipment and support would accrue. The Senate accepted this initiative. However, the House deleted $699 million in Shipbuilding funds on the basis that the FY 1983 request was some $600-800 million short of full funding for the hull. The net result of the House action, if sustained in conference, will be the loss of the second FY 1983 TRIDENT hull, substantial cost penalties and a stretch-out of the total program by at least one year. Therefore, I am strongly urging the Conferees to accept the Senate position without prejudice and restore the FY 1983 Shipbuilding funds.

(U) Binary Nerve Gas. Deletion of $54 million as proposed by the House would prevent us from eliminating the strong incentive the Soviets currently have to use chemical weapons against us or our allies. This would seriously compromise the Administration's ability to successfully negotiate a complete, verifiable chemical weapons ban and would increase our reliance on nuclear weapons to deter a Soviet chemical attack. We continue to improve chemical protection; however, without the capability to place Soviet forces at risk from chemical counterattack, protection is not an effective deterrent. The present chemical retaliatory capability is inadequate because

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there is no effective capability against second echelon targets. The stockpile is declining because of deterioration and the phase-out of delivery systems for most of the ammunition, and there is no production base available to produce munitions. Modern usable weapons are required if we are to reestablish a chemical deterrent. The $54 million is required to obtain a production capability for an effective weapon against second echelon targets and to initiate production of binary munitions. I urge the Conferees to support the Senate position.

(U) AH-64 (APACHE). The Senate denied $803.8 million for the procurement of 48 helicopters. Our request represented the second year buy of this aircraft and the House deleted $47 million identified as "risk" money no longer needed based on the negotiated first year contract with Hughes. The issue of cost increase has been addressed before both committees in detail and I believe that the Army has now reached a reasonable agreement with the contractor for the initial procurement lot. Future negotiations will be important. Denying our FY 1983 authorization request would delay subsequent aircraft deliveries by as much as 19 months. Denial of these funds could also terminate the recently signed first year contract, and we would sustain approximately a 30 month delay in fielding the AH-64 as well as cost increases from delayed program execution. The day/night/adverse weather/anti-armor capability that the AH-64 provides does not exist today and is essential to defeat the heavy armor targets. Therefore, I strongly urge the Conferees to restore 803.5 million. The total reserve funds will be used to buy additional aircraft and will lower unit cost significantly.

(U) Light Armored Vehicle (LAV). The House deleted our total procurement request for the LAV program, $111.3 million for the Army and $89.7 million for the Marine Corps, based on the belief that the Army/Marine Corps are not implementing a joint program as directed by the committees last year. The Army and Marine Corps are working together to procure a basic vehicle and appropriate management attention will be given to control acquisition costs for this program. Variants of the basic vehicle have been considered as a means to satisfy additional combat needs; however, prior to pursuing any variant, we will return to the committees with full details and justification. I believe the LAV program to be well structured at this time and I urge the Conferees to support the Senate position and approve the Army and Marine Corps authorization request.

(U) C-5B Aircraft. The Senate deleted $450 million requested for the C-5 aircraft and authorized remaining airlift funds to existing commercial wide-bodied cargo aircraft. The C-5 aircraft is urgently needed to help reduce a critical shortfall in our ability to rapidly deploy outsize cargo. Existing commercial wide-bodied aircraft are not configured for, or reasonably modified for, performance of this mission.

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I request that the Conferees restore the $450 million and not require the Department to use commercial aircraft, which are not capable of deploying outsize cargo.

(U) Projectile 155mm HE COPPERHEAD. The House deleted the total FY 1983 program of $183.6 million. The Senate made no reduction, but requires notification to the committees prior to obligation of funds for COPPERHEAD. Cost growths along with problems during reliability test firings have occurred. The Army is diligently working on an improvement plan to achieve 80 percent reliability. Adjustment of the present request from $183.6 million to $117.4 million will still satisfy the RDJTF 60 day war reserve requirement of 9,500 rounds. It is planned to terminate the program after attaining this inventory objective and the requested amount of $117.4 million includes anticipated termination costs. Failure to meet the inventory objective will severely diminish the RDJTF antiarmor capability. Limited sustainability would result in an unacceptable risk of the RDJTF against opposing heavy forces.

(U) F-15 Squadrons. The House reduced our request by $477.9 million on the basis that additional F-15's were not sufficiently justified. Initial spares were reduced by $23 million and peculiar ground support equipment was cut by $97.2 million. The House action impacts the Air Force's efforts to modernize our aging tactical fighter inventory, to build a force structure sufficent to fulfill a growing worldwide requirement and to properly maintain the force as fielded. The action did not consider the impact to the Air Defense Master Plan, nor does it provide for extended operation and support of the aging F-106. The F-15, with its premier air superiority capability, is the cornerstone to success of all other tactical air missions, and it must be procured in adequate quantities. The House action lowers the FY 1983 production rate from 42 to 30 and underfunds spares for that quantity by $9.1 million. The lower production rate results in an increased flyaway cost per aircraft of $1.4 million and increases the level of inefficiency in subsequent procurements. I urge the Conferees to approve the President's request for 42 aircraft, peculiar support equipment and initial spares. Failure to restore these funds will seriously degrade CONUS Air Defense effectiveness, and tactical forces modernization, strength objectives, readiness and sustainability.

(U) E-3A AWACS. The House reduced our procurement request by $78.0 million by deferring one AWACS to FY 1984, thus providing a two-year program of 1-2 instead of 2-1. This action will delay the completion of the last E-3A (US-31) of the 34 aircraft buy by one year with an associated cost impact to the NATO, the Saudi and the U.S. programs. The delivery schedule of the U.S. and NATO production contracts are interleaved and the pricing was accomplished also on an interdependent basis. Deferring US-31 by one year will cause a renegotiation of a major portion of the NATO contract. We have

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estimated the cost impact to the NATO program to be about $50 million. The U.S., as a NATO member, will be required to absorb a significant share, if not all, of this NATO cost impact. Cost penalties will accrue also to the U.S. and Saudi programs due to the gap created in the installation and checkout line. The ultimate aggregate of the cost penalties will surpass the $78 million reduction made to the budget. Therefore, I strongly urge the Conferees to support the Senate position which approved our budget request.

(U) Marine Corps Ammunition. The House reduced 155mm ammunition procurement by $160.2 million. The Senate recommended also, a $100 million reduction to ammunition procurement in general. The growth in the Marine Corps ammunition program is the result of an evolving force structure and improved combat capability. The introduction of the M-198 155mm howitzer as the direct support artillery weapon, the improvement of infantry weapons within the Marine divisions, and the development of the Light Armored Assault Battalion equipped with light armored vehicles, have significantly increased the Marines' ammunition requirements. Current production facilities are capable of supporting the requested funding profile. The House action reduces, by one half, the 155mm ammunition required for the M-198 howitzer, which is currently being fielded to the Fleet Marine Forces. I urge the Conferees to support the Senate Position.

(U) TITAN II. The Senate has recommended deferral of the Titan II retirement by one year as part of their decision not to deploy the MX missile on an interim basis. Also, they added $73.8 million for TITAN II missile modification to maintain this inventory. I do not support the addition of TITAN II missile modification funds nor the purpose for which it is intended.

(U) A-6E Intruder. The President's Budget requests eight A-6E aircraft. These aircraft were deleted by the Senate at the amount of $242.7 million. Since that action, the contractor has made a tentative offer that appears more favorable. We would like to explore this as part of a revamped and economical buy-rate for all large tactical aircraft in FY 1984. Therefore, I hope the Conference action regarding FY 1983 would protect our ability to explore this option.

RESEARCH AND DEVELOPMENT

(U) Joint Rotary Wing Aircraft (JVX). The House deleted $59.3 million of Army/USMC RDT&E funds and deleted several other Army and Navy helicopters on the grounds that we had budgeted for a common, next generation aircraft and also retained all of the service-unique efforts previously programed. Well-established Service requirements exist for the development of advanced vertical lift technology aircraft. The Services have agreed to join efforts in the development of a single, mature, advanced technology vertical lift aircraft (JVX) to fulfill these mission needs. The Services have begun an assessment of applicable technologies and are formulating Memoranda of Understanding and Agreement to initiate this program during FY 1982. The JVX program provides us with a rare opportunity to meet multiple mission needs with one basic platform. I urge the Conferees to authorize $59.3 million.

(U) Advanced Technology Developments. The House made twenty separate reductions in Advanced Technology Development programs totalling approximately $138 million. This action would effectively cancel important ongoing demonstrations in fire control radar, terminally guided munitions, test equipment, aircraft structures, missile propulsion and lasers. In addition, we lose the ability to accomplish our goal of improving the process of transitioning new technology from the laboratory to useful applications in light helicopters, space systems environmental interactions, cartographic improvements, airborne radar and life support areas. Funding approval of the total Advanced Technology Development program will assure us of a viable range of demonstrated technologies for future system options. Therefore, I urge the Conferees to support the Senate position.

(U) DoD Computer Technology. The House deleted "all requests for authorization for Service efforts that would result in computer instruction set architecture (ISA) standardization." This action and the accompanying language would force continued proliferation of vendor-proprietary ISAs. This leads to costly sole source contracts and is a major cause of rapid growth in software support costs. Also, it would preclude exploitation of the MIL-STD-175 computers being developed under the Very High Speed Integrated Circuits (VHSIC) program and would force a significant cost increase and schedule delay in our Ada language program to accommodate an expanded number of nonstandard, proprietary target (applications) computers. In addition, it would block the continued development of an urgent element of battlefield survivability, the Military Computer Family. I urge the Conferees to support the Senate position and restore $20.9 million.

(U) High Energy Laser. The House deleted $33.1 million for the Army's Advanced Technology Demonstrators for laser weapons on the forward battlefield, and made four deletions totalling $121.3 million to the Air Force and DARPA space-based laser programs. This action eliminates work on infrared (chemical) lasers and on the system issues which must be addressed, in addition to technology for the space battle station. The House then added $50 million for short wavelength lasers. We believe that available technology is sufficiently mature for the Army Demonstrators, and that such weapons show sufficiently high potential for early deployment. These demonstrators also provide a means for development of battlefield tactics against

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Soviet deployment of similar weapons. In the space arena, the resolution of system issues is every bit as important as the development of battlefield technology. While there are advantages to the use of short wavelength lasers, there are technical difficulties as well. Much planning has been completed over the last year to define a space laser program that is properly balanced between near term and far term technologies. I urge the Conferees to adopt the Senate's approval of our request for the DARPA and Air Force space laser efforts, and to restore $28 million for the Army's battlefield laser program so that we can continue in this important technology area.

(U) Project Air Force. The House deleted $6.2 million from the Air Force request which would result in a 30 percent reduction in analytical assistance to decision making. This program provides a wide range of analytical and planning support by the RAND Corporation to senior Air Force leaders. The proposed cut would dilute RAND's unique contributions in well-thought-out independent and objective research relating support resources to better warfighting, force sustainability, and endurance capabilities. Past experience has shown that expenditures in this program result in improved operating methods adopted by the Air Force. The proposed cutback would result in the loss of experienced and highly capable analysts. This national cadre of analytical talent could not be rebuilt easily. I urge the Conferees to restore these funds.

(U) LINK HAZEL. The House denied our request of $42.8 million for LINK HAZEL while the Senate approved the program. This is a highly classified program which the Department considers to be of great importance. I urge support of the Senate position and approval of the $42.8 million request.

(U) Technology Transfer Control. The House proposed $2.0 million for Defense Agencies to initiate procedures within the Department to control the unauthorized transfer of U.S. technology to foreign countries. The House position identifies a very important need to maintain our national security in this regard and I therefore fully support this action. Based on events since the FY 1983 budget was first submitted, I now believe there will be need for an additional $6 million for related efforts in this critical and growing area.

OPERATION AND MAINTENANCE

(U) POMCUS Sets 5 and 6. The House deleted $31 million for procurement of tool kits and load list items, and for preparation of vehicles for transfer to Division Sets 5 and 6, located in the Netherlands and Belgium. The House stated that until U.S. modernization efforts have progressed much further, the diversion of equipment to POMCUS would come at the expense of units scheduled to deploy in non-NATO contingencies. Our schedule for fill of equipment for Division 5 and 6 has been

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adjusted to reduce the impact on units which might be required to deploy in non-NATO contingencies. It is the view of the Joint Chiefs of Staff and the Supreme Allied Commander, Europe, that a 10 division D-Day U.S. force in Europe is the absolute minimum required and I support that view. Accordingly, I urge the Conferees to support the Senate position and restore these funds.

(U) Navy Commissary Store Operations. The House directed retention of the 3,000 positions in appropriated fund status, but did not increase the total end strength authorization to account for this. Also, they reduced $110 million in Operation and Maintenance, Navy funds associated with absorbing the 3,000 positions. The House further provided for use of the Secretary of Defense's 2 percent authority to exceed statutory ceilings if the Navy could not absorb the end strength reduction. The Senate Armed Services Committee did not address the issue.

The House reduction is a double cut, with $60 million deleted for civilian salaries in conjunction with the 3,000 end strength absorption and an additional $50 million reduced for functions associated with the 3,000 end strength absorption. A reduction of this magnitude could not be absorbed without an adverse impact on readiness. Retention of these resources will allow the Department to rebalance its program requirements within its total manpower resources and seek alternative means of accomplishing affected programs. Irrespective of the solution ultimately required to resolve the shortage of manpower resources, the availability of necessary financial resources will be required in order to avoid undesirable program reduction. Therefore, in order to preclude degradation of essential readiness initiatives, I request restoration of $110 million in Operation and Maintenance, Navy funds.

(U) CINC Readiness Fund. The House supported the CINC Readiness Fund at the $100 million level with no decrement to the individual Service O&M accounts. The Senate also supported the CINC Readiness Fund and recommended that the fund be supported directly by the Services. Air Force, Army, and Navy O&M accounts were decremented $30 million each and the Marine Corps O&M account was decremented $10 million. The approval of the CINC Readiness Fund by both congressional committees was a major step forward in recognizing the responsibilities and needs of the CINCs to refresh near term readiness shortfalls. The House approval of the fund with no direct decrement to the individual Service O&M accounts is the preferred approach to establishing the CINC Readiness Fund.

(U) Civilian End Strength Cut, Defense Agencies. The Senate reduced 2,600 spaces from the Defense Agencies on the rationale that they should more vigorously pursue the A-76 program. The budget projected 350 spaces to be cost efficient under contract, but did not reflect additional space reductions as completion of the cost study program is projected for late

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in the budget year. Reducing these spaces prior to completion of A-76 studies would result in programmatic reductions in the Defense Agencies' missions, initiatives, new requirements, and increased workloads. I urge the Conferees to restore these end strengths.

(U) Active Force End Strength Flexibility. The House granted authority to the Secretary of Defense to exceed the departmental authorized end strength by one-half percent in the aggregate. The Senate also granted a ½ percent flexibility, but applied it to authorized end strength for each active Service. Restriction of the flexibility to each Service will preclude additional flexibility that would be available on an aggregate departmental basis. In a period of force growth, the flexibility needed by one Service may exceed that of another Service. Therefore, it is requested that the House position be adopted, and I urge the Conferees to support raising this flexibility to the level of one and one-half percent of our total authorized end strength as requested in the budget.

GENERAL PROVISIONS

(U) Line Item Authorizations. H.R. 6030 specifies line item authorization for ships, torpedoes, other weapons, and several select RDT&E programs. This is a radical departure from past practice with authorization made by major title. Setting the limits by law on a line item basis will severely restrict the reprograming process that has served both the Congress and the Department well over the past twenty years. With limits by line item set in law, the Department will not be in a position to make below threshold adjustments to ensure timely program execution. The ability to execute timely congressional approval reprogramings will be deterred by limiting legislation, which will work as a detriment to the orderly flow of program execution. Given the nature of Authorization and Appropriation approved by the Congress, the ability to recognize program changes during the appropriation process would be severely restricted by line item authorization limits. There have been numerous instances in the past when programs have had to be modified in the appropriation process to recognize fact-of-life changes such as a development slip or in some instances, program accelerations. The reprograming process is a prime example of a viable tool that serves both the Congress and the Department well without a need for further change. I support the Senate position which does not include these provisions.

(U) O&M Authorization by Budget Activity. Similar to the line item authorization that I have just addressed is the provision in the House Bill for authorization of the O&M appropriations by budget activity. I wish to stress the constraints that such limitations place upon us in program execution. In particular, these appropriations are the core of our day-to-day operational costs and can have the greatest impact on our readiness posture. Again, I urge support of the Senate position.

(U). Contracting Out. I agree with the Senate action to revise Section 502 of the Department of Defense Appropriation Act of 1981. The revision will increase savings from cost studies of commercial activities and promote efficient management of contracting out. The House Military Pay Bill adds to Section 502, restrictions on contracting out. This will add to costs, introduce red tape, and inhibit managerial efforts to promote economies and efficiencies. The House recommends a moratorium on cost studies which will adversely affect readiness and cost the Department about $100 million. I request the Conferees to support the Senate action, reject the Pay Bill additions to Section 502, and reject the House moratorium.

(U) Multiyear Procurement. Section 102 of the Senate Bill prohibits the Department of Defense from executing multiyear contracts on specific programs identified therein until 30 days have elapsed from the time supporting data have been submitted to the Congress. The committee imposed this requirement because no supporting data were submitted to the committee for these programs. The provisions of Section 909 of the 1982 Authorization Act require congressional notification for only those programs that contain a cancellation ceiling in excess of $100 million.

The DoD FY 1983 multiyear candidates will not contain a cancellation ceiling of that magnitude. Detailed multiyear justification material, however, was submitted with the FY 1983 budget for the CH-53 Helicopter, MLRS Rocket System, Blackhawk Helicopter, and NAVSTAR GPS Systems in accordance with the provisions contained in House Appropriations Committee Report No. 97-333 covering the FY 1982 DoD Appropriation Act and for programs for which Selected Acquisition Reports are prepared. Detailed justification material is available for multiyear candidates. This has been provided to the General Accounting Office and the Secretaries of the Military Department have provided separately the data to you by letter. I believe the current language of Section 102 in the Senate Bill is too restrictive and will inhibit DoD efforts to enhance the use of multiyear contracting. The provisions of Section 909 of the FY 1982 Authorization Act are, I believe, appropriate for congressional reporting requirements and oversight.

(U) Sole Source Contracts. Section 1104 would require a 30-day public notice (with certain exceptions) prior to negotiation of sole source contracts over $100,000 and an annual report on all sole source contracts exceeding $100,000. The Department opposes this section, because it adds unnecessarily to the administrative workload. Under our present procedures, which are based on the criteria and exceptions of the Small Business Act, we synopsize proposed procurements over $10,000, both competitive and noncompetitive in the Commerce Business Daily, no later than 10 days before the issuance of solicitations, when feasible. The annual report required by the bill is unnecessary, burdensome, and duplicative of existing statutory requirements for government-wide reporting of procurement data.

(U) Major System Cost Reports. The House and Senate versions of the FY 1983 authorization bill contain a number of cost reporting provisions on major acquisition systems. In general, I believe that the provision in S.2248, Section 1103, "Reports on Unit Cost of Major Defense Systems" is the more comprehensive.

The House provision requires us to cover automatically a large number of systems in the Selected Acquisition Reports. This would overload the system with information on programs that are not major weapons systems, e.g., Army trucks. The Senate provision is consistent with the oversight role in that exception reporting is made to the Congress when management threshold levels are breached. In the interest of satisfying the needs of Congress when management threshold levels are breached and not burden the system I suggest the following. In the Senate Bill: (1) allow at least 30 days to make a unit cost threshold breach determination, and (2) provide for a mechanism to restart obligations in the event of a late report. In the House Bill: (1) require only the submission of an annual SAR to the Congress concurrent with the submission of the President's Budget, and (2) establish the baseline for measuring cost growth as defined by the House.

(U) Consolidation of Military Transportation Commands. The Senate provision prohibits consolidation of the military transportation commands and curtails our efforts to improve wartime readiness to achieve economies and efficiencies through better transportation management in the Department. I request that the prohibition be deleted from the bill. The proposal I have under consideration to integrate the Military Sealift Command (MSC) and the Military Traffic Management Command (MTMC) has the unanimous support of the Joint Chiefs of Staff. It will not adversely affect the support MTMC or MSC provide the operating units of the Army or the Navy. The proposed new command would bring together under one commander, Defense sealift, traffic management, land transportation and ocean terminal operations. This would enable us to better manage our force deployments and take full advantage of the economies and efficiencies of intermodal transportation services.

(U) Consolidation of Consumable Items. The House recommended disapproval of $9.9 million in authorization and 403 spaces for DLA to transfer inventory management responsibility from the Services to DLA. The House did restore 961 civilian

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personnel spaces to the Services, thus accounting for the net $15 million and 503 personnel savings identified in the FY 1983 budget for this transfer. This DoD initiative is a significant effort on the part of the Department to reduce operating expenses while maintaining a high level of readiness. I urge that the authorization be approved as submitted.

(U) Former Spouses. I strongly oppose Section 907 (Hance Amendment) of the "Uniformed Services Former Spouses Protection Act" as passed by the House. Its purpose appears to be nullification of essential protections for the servicemember incorporated in the Schroeder-Nichols amendments. This will occur in the eight community property states, where the servicemember would have no safeguards; in the remaining 42 states, the servicemember would have the safeguards established by the Schroeder-Nichols amendments. If Section 907 remains, significant numbers of military personnel could be unfairly exposed to more legal risk in community property states. Some military could even resist assignment to these states. These results might have an untenable effect on force management, and a negative impact on servicemembers.

(U) Inspector General (IG) for DoD. I urge support of the Senate position which will place the DoD Inspector General under the authority, direction and control of the Secretary of Defense. This will maintain necessary autonomy for the IG while still effectively communicating needed information directly to top management. It is essential that the IG be subject to the authority, direction, and control of the Secretary due to the hierarchical command/subordinate relationship within DoD. At the same time, I support the House position to retain the Defense Contract Audit Agency (DCAA) under the Assistant Secretary of Defense (Comptroller). Finally, I believe it most important that the audit policy function for the Services and DCAA remain with the chief financial officer of the Department of Defense. Therefore, I strongly urge the Conference to include modifying language to retain this as a Comptroller function.

(U) T-5 Tanker Replacement Program. The House Bill contains a provision to preclude the Navy from leasing any vessel associated with the T-5 Replacement Tanker Program that has a main propulsion system or any other major component not built in the U.S. This program as currently administered is in full compliance with all existing statutes regarding "Buy American." These laws already require such components be built in U.S. shipyards. For example, the hull and super-structure must be manufactured in the U.S., and at least 50 percent of the cost of all other components must be U.S. made. The specific requirement to purchase a U.S. manufactured propulsion system, as contained in the House Bill, will significantly delay and increase the cost of the program. Accordingly, I urge the Conferees to support the Senate position.

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(U) Purchase of Foreign Coal. The House included a provision to prohibit the purchase of foreign coal for use on military bases in Europe. We have modified our coal procurement procedures to permit U.S. firms to compete with foreign supplies on a more favorable basis than in the past and, therefore, such a restrictive provision is not needed. However, we must have the ability to procure foreign coal in an emergency, such as in the case of a prolonged shipping strike or other major disruption in the flow of U.S. coal to Europe.

(U) Civil Defense. The Senate reduced the request of $252 million to roughly $148 million. Unless these funds are restored in full, it will not be possible to move ahead with the enhanced civil defense initiatives advocated by the Congress in the 1981 amendments to the Federal Civil Defense Act of 1950. The denial of funding for expansion and improvement will leave the program in its current deplorable state for yet another year, and undercut all possibility of achieving a credible and cost effective civil defense posture by the end of the decade. I strongly urge restoration and authorization of the full $252 million.

Title IX of the Senate Bill S.2248 addresses authorization of the FY 1982 Defense Supplemental. I have mentioned on several occasions the importance of this funding and wish to express my strong appreciation for this support. My position on the specific items authorized for the FY 1982 Supplemental is contained in the detailed backup package to be provided separately. I urge support for the Senate positions on the supplemental authorization programs.

The same detailed backup package will also consider the line item detail for FY 1983.

An identical letter is being sent to the Chairman, Committee on Armed Services, House of Representatives.

I wish to express my appreciation for the very high level of support provided by the Armed Services Committees and for this opportunity to comment. If I can be of further assistance in your consideration of our national security needs, please do not hesitate to call on me or my staff.

Sincerely,

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Mr. **Robinson**. Mr. Secretary, I note that your authorization appeal lists 27 specific items, only one of which is a Congressional add-on. That one item is for $73.8 million, while the other 26 are appeals for restoration of $7.5 billion of Congressional cuts. Is your previous statement that your appeal addressed Congressional add-ons, as well as Congressional cuts, a balanced one? Were you aware when you made that statement that over 99 percent of the appeal was for restoration of Congressional cuts?

[The information follows:]

The appeal that we are referring to here is the letter we signed on August 3 to the Chairmen of the Authorization Conference, and it did address the more significant actions of the Congress which were for restoration of the congressional cuts. However, the detailed back-up appeals, which are submitted by appropriation and line item, did address the congressional add-ons, and that package rejected some $4.5 billion that was added by the House or Senate. Of the combined total of $11.8 billion House and Senate reductions made, we accepted some $4.3 billion. As mentioned earlier, we tried to get the bill back as close to the best balance we had originally recommended and to the totals required to sustain our national defense.

Mr. **Robinson**. If you appeal appropriation cuts, will you assist us by suggesting alternative reductions, so that we can reach the levels mandated by the budget process?

We would like to foreclose here on an option to appeal appropriation cuts. However, as stated earlier we are committed to our goal to protect the U.S. by strengthening our defenses. We feel that the reductions taken in September 1981, and those made in May after the budget was submitted, have made this as constrained a budget as feasible in view of the threat we face and our needs to meet that threat. Additional reductions below the authorized levels, as Section 302 suggests, will force us into some difficult decisions regarding our force structure capabilities and missions.

Mr. **Edwards**. Would you yield?

Mr. **Robinson**. Certainly.

Mr. **Edwards**. Is there any major item in your appeal letter that was not put back in the conference?

Secretary **Weinberger**. I can't answer that because I haven't seen the full report of the conference committee. Dr. Borsting may have a better idea of that. For a while the binaries seemed to be in; now they seem to be out. That is a $54 million item.

Mr. **Edwards**. How about the Trident?

Secretary **Weinberger**. I believe they are down to one Trident rather than the two that had been formally requested.

Mr. **Edwards**. Did you appeal that?

Secretary **Weinberger**. Yes.

ARMY FORCE STRUCTURE

Mr. **Robinson**. In your statement, Mr. Secretary, you say, "If the committee insists on even more reductions in defense, then we must reduce our combat forces themselves, perhaps deactivating an Army division or even two and two air wings, as well as decommissioning some Navy ships."

Last year you issued guidance to the Army in particular, which called for a major expansion of force structure, and the Army reportedly replied that your guidance would require a force of 870,000 by 1987, an expansion of almost 100,000 over the current level.

Since then, that projected force size has been lowered to 819,000, I believe, because there will not be enough money to buy all of the equipment the Army wants and to pay for force expansion as well. There are press reports that you have some agreement with that Army attitude.

Is that accurate, Mr. Secretary?

Secretary WEINBERGER. Basically, Mr. Robinson, the problem here is that we simply do not have the ability to do all the things that seem to be necessary, in the kind of world in which we live and the threat that we face.

We all have to make some kinds of reductions in the amounts that are initially felt, I think, quite naturally, quite reasonably, to be required, and that process took place within the Department, and it took place to a very substantial degree.

We do not want another hollow Army that General Meyer referred to a few years ago. So rather than having a lot of divisions on paper which are not combat-ready or filled out, we have adopted the idea that we should fill out each division. We should pay greater attention to reserves and their equipment and training, but we cannot afford to have the full size force that we believe would give us the greatest margin of safety.

Yes, we have had to make some reductions in everything. We have done that, and that is why we feel further reductions of the kind proposed under the 302 suggestions would be so dangerous.

NAVY FORCE STRUCTURE

Mr. ROBINSON. Would you apply your comments to the other branches of the service? It would appear that the Navy and the Air Force would be planning for expansion at a substantially greater rate than the Army.

Secretary WEINBERGER. I think there is no question about the Navy in absolute dollar terms, and that is because of the recognition that so many strategic minerals and metals that we need are so many thousands of miles from our shores. The same is true with our allies. The ability to go on the open seas to places we have to go and return is going to require a larger naval force than we have now.

We have decommissioned some old ships. We are doing a lot of modernization, but we will need a larger naval force. We have made that point many times and will certainly continue to make it.

AIR FORCE FORCE STRUCTURE

Mr. ROBINSON. You covered the Navy. Would you apply your comments to the Air Force, also?

Secretary WEINBERGER. We have the same basic problems there. Again, airlift is vitally needed for carrying out certain Army functions, so to speak. We are doing a lot of modernization, but we are also talking about increasing the air defense of the United States which we do not now have. That, I think, is a vital thing to do, especially in view of the Soviet capabilities.

R&D PROGRAMS

Mr. **Robinson**. You mentioned the fact in your comments, again for the record, Mr. Secretary, that you have trimmed down, made much more lean the R&D area of the defense commitment, and yet we know that there are still about 1,000 programs that are in the R&D category, as I understand it.

Now, are you comfortable that that number has been trimmed down to the degree that is called for under the circumstances?

Secretary **Weinberger**. Yes, it has been trimmed down. It has been trimmed down so that what we are really talking about is about 400 programs that are in active R&D, and they are in advanced and full-scale development. Many of them are interrelated.

A large number of the 1,000 that you mentioned support the technology base test and evaluation facility, and management support of the activities of the military departments.

Dr. DeLauer can testify about this in greater detail, but the 1,000 programs really work out to about 400 in advanced and full-scale development and that I think is proper.

Mr. **Robinson**. And that is trimmed down from about what figure, Mr. Secretary?

Secretary **Weinberger**. Oh, I would guess probably initially about 1,000 of the ones that are now in the category which the 400 are now.

[Clerk's note.—In editing the transcript, Secretary Weinberger changed his testimony to read: I would guess initially about 1,000.]

Mr. **Robinson**. Thank you, Mr. Chairman.

Secretary **Weinberger**. Mr. Chairman, would you want me to proceed to any of the MX materials now? I have a short statement on that whenever you are ready.

Mr. **Addabbo**. Wait until Mr. Edwards comes down. There is one more five-minute vote.

While we are waiting, have you been able to review the actions taken by the Armed Services Committee?

Secretary **Weinberger**. I didn't hear the beginning.

Mr. **Addabbo**. Provide for the record a list of the 600 programs in RDT&E that have actually been eliminated.

Secretary **Weinberger**. We will do that.

[The information follows:]

[redacted] 694

THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

RESEARCH AND
ENGINEERING

20 SEP 1982

Honorable Joseph P. Addabbo
Chairman, Subcommittee on Defense
Committee on Appropriations
U. S. House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

During the Budget Wrap-up Hearing of August 17, 1982, you asked Secretary Weinberger for a list of 600 RDT&E programs which had been cancelled. Your request stemmed from an earlier response Secretary Weinberger made during questioning by Mr. Robinson. During that testimony the Secretary apparently misunderstood Mr. Robinson's question since we never eliminated 600 RDT&E programs during any of our program reviews. A copy of the March 29, 1982 list of those programs which were eliminated or reduced (including RDT&E programs) was included with the transcript when it was returned to the Committee and a copy is enclosed. This is our only list of RDT&E program eliminations.

We regret this misunderstanding and any inconvenience it may have caused the Committee.

Sincerely,

Dick DeLauer

Enclosure

[redacted]

AUTHORIZATION ACTION

Mr. **Addabbo**. Have you been able to review the action that was taken by the conferees on the authorizing legislation?

Secretary **Weinberger**. To some extent. I don't believe the report has been written. At least I don't have a copy of it, but we have read various accounts of it. We have a certain natural interest in it, and so we pay some attention to it. I don't know if I can be very exact with you.

Mr. **Addabbo**. When we had the supplemental appropriation hearing, again reading from part 3 of the Supplemental hearings, you had not officially submitted the list that the Senate Armed Services Committee had of the proposed reductions.

Would it be possible for you at this time—if not, supply for the record a list of those items the conferees have deleted and which items they have restored?

Secretary **Weinberger**. I don't have that now, but I think we can probably get it for you.

[The information follows:]

Authorization Conference Deletions From DOD List

[Dollars in millions]

	Dollars	Appn. title
Reduce RPMA	$65	O&M.
Reduce RDT&E	601	RDT&E
Field Artillery Ammo Supp Veh (FAASV)	45	Proc.
Commun. & Elec. Equipment	121	Proc.
Continuing Education System	30	O&M.
Recruiting and Advertising	45	O&M.
Foreign Currency Adjustment	201	O&M.
Lower Fuel Prices	438	O&M.
Mobile Protected Gun	25	RDT&E.
Blackhawk Helo	147	Proc.
Cap M-1 Production	148	Proc.
Decommission Ships	190	O&M.
Delete TAKX	40	O&M.
Terminate A-6E	5	Proc.
Restructure LAMPs MK III	316	Proc.
Defer SH-60 Variant	10	RDT&E.
Consol. HXM with JVX	5	RDT&E.
TRIDENT (Nuclear)	737	Proc.
Defer TRIDENT I	17	RDT&E.
Consol. Cruise Msle Progs.	36	RDT&E.
Deactivate 1 Active Wing	40	O&M.
Terminate A-10	328	Proc.
Restructure IIR MAVERICK	98	Proc.
Reduce AF Proc. for M-X	458	Proc.
Reduce NFIP	19	O&M.
Total	4,165	

CG-47 S&I REPORT

Mr. ADDABBO. Mr. Secretary, we have prided ourselves on keeping confidential and secret any testimony or items presented to the Committee, including any reports that have been classified as secret or otherwise classified.

I don't know if you have read today's New York Times, but on page 9 there is an article entitled, "New Navy Cruisers Reported Sluggish".

Secretary WEINBERGER. It has been brought to my attention.

Mr. ADDABBO. It is about the Aegis cruiser program quoting very extensively from information reportedly outlined in the report by this Committee's Surveys and Investigations staff. We have always kept tight controls on our classified reports and only recently, cooperating with your office, started sending to you those reports which you have requested.

Prior to this we have never seen a leak from those reports. I would ask that you investigate immediately how that classified information was leaked to the press. Until such time, we may have to reconsider the sharing of information from this Committee.

Secretary **Weinberger**. We will certainly do that. I would point out, Mr. Chairman, that we have no interest whatever in making such a report of that kind public or allowing the information from it to leak. It is damaging information. We believe it is wrong and would certainly not have any interest whatever in putting that kind of information out.

I will indeed investigate very carefully to find out exactly how that happened. I hope it is with greater success than I have had in investigating some of the other leaks that have come out of the department.

[The information follows:]

First. we would like to take this opportunity to thank the committee for extending to us the privilege of sharing the S&I reports in a timely fashion. We believe this arrangement to be mutually beneficial with the bottom line being to save the taxpayers money.

Secondly, we likewise share the committee's concern about the unauthorized disclosure of this particular report and more importantly the possible compromise of classified information. In this regard, we have reviewed our procedures for handling S&I reports and have reiterated to those persons involved your committee's policy on releasability.

Finally, we would hope that the committee would foreclose on the idea of reverting back to the practice of withholding these reports from DoD. We believe it is in our best interest to share information upon which we can build a stronger national defense.

Mr. **Addabbo**. Thank you.

Mr. Secretary, the reason I have asked you to go over the conference report is because, as we have seen too often, many of the reductions which are sent up are given very little scrutiny by your department, mostly at the request by the military, and their request for reductions are always cases where they know the committee will restore them.

In so many instances we find that the reductions were made on questions of readiness, operation and maintenance, ammunition, et cetera, and so as a result we wonder how carefully those reductions were scrutinized before they are sent up here.

ACQUISITION INITIATIVE SAVINGS

In your statement you stated that acquisition initiatives will save $16 billion. We are wondering just how closely this was reviewed as to the validity of these estimates. We had our own investigative staff look at these programs, and in their opinion of the 16 acquisition items which the department claims would save about $2.1 billion, our estimate by our staff found there would only be maybe about $152 million of valid savings.

I am wondering what type of overview you give the military? I know you have changed the program over there in the Pentagon, that the military can do no wrong, as a result of which you have reduced your overview staff quite a bit. What overview do you give the military?

Secretary **Weinberger**. Mr. Chairman, I don't know what the basis is for that last statement. We have a very large number of

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Code	I.	ACQUISITION INITIATIVES	Appn.	FY 1981	FY 1982	FY 1983	FY 1984	FY1985	FY 1986	FY 1987	Total
(AX)	G.	Elimination/Reduction of Marginal Programs/Systems									
		1. E-4B Procurement	APAF	-	-	278.7	290.8	-	-	-	569.5
		2. EC-135 Airborne Launch Control Systems	APAF	-	10.4	22.8	-	-	-	-	33.2
		*3. Titan Missile Phase Out	APAF	-	-	-	-.1	-	-	-	-.1
			MPAF	-	24.7	73.8	42.3	26.5	46.3	78.1	291.7
			OMAF	-	2.5	6.2	11.6	22.3	23.8	37.3	103.7
			MPAF	-	.6	-4.6	4.1	12.7	22.6	38.4	73.8
			RDTEAF	-	-	.6	-	-	-	-	.6
		4. KC-135	APAF	-	-	-	28.9	68.5	69.6	-	167.0
			RDTEAF	-	-	10.3	15.8	7.8	.9	-	34.8
		5. B-52 Aircraft Modification	APAF	-	-	.1	21.0	45.3	132.5	-	198.9
			RDTEAF	-	-	7.0	15.9	.1	-	-	23.0
			OMAF	-	-	-	.1	1.9	9.4	-	11.4
			MPAF	-	-	-	-1.0	-1.4	-.3	-	-2.7
		6. Minuteman II	PPAF	-	-	-	-	166.0	212.0	-	378.0
		7. Expendable Drones	RDTEAF	-	-	5.1	8.5	6.8	4.3	-	24.7
			MPAF	-	-	26.7	58.1	52.2	86.7	-	223.7
			MCAF	-	-	.2	.1	-	-	-	.3
			OMAF	-	-	.1	.1	.2	.2	-	.6
			MPAF	-	-	.8	.8	.8	.8	-	3.2
		8. Laser Acquisition	OPAF	-	6.6	-	-	-	-	-	6.6
		**9. 8" Anti-Radiation Projectile									
		10. AN/SPS-52 Radar	OPN	-	-	14.6	15.9	14.2	12.9	13.5	71.1
		11. CHANNEL FINDER	OPN	-	-	-	7.9	7.8	7.7	8.1	31.5
		12. Gun Fire Control Systems	OPN	-	-	24.1	20.3	-	10.5	-	54.9
		*13. SMS ORDALTS: TARTER	OPN	-	-	42.6	60.0	26.0	57.9	36.9	223.4

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Code	I.	ACQUISITION INITIATIVES	Appn.	FY 1981	FY 1982	FY 1983	FY 1984	FY1985	FY 1986	FY 1987	Total
(AX)	G.	Elimination/Reduction of Marginal Programs/Systems (Con't)									
	14.	5" GP	OPN	-	16.5	29.8	86.8	112.8	112.6	158.2	516.7
	*15.	Advanced Base Function Components	OPN	-	-	11.0	15.0	48.0	41.0	54.0	169.0
	16.	Ship Systems Modifications	OPN	-	-	100.6	159.0	-	17.8	164.6	442.0
	*17.	NOSS	RDTEN	10.7	46.1	87.9	115.7	105.7	74.2	78.3	518.6
	*18.	Weaponizing Proto	RDTEN	-	2.0	3.0	4.0	6.6	8.2	8.6	32.4
	19.	SOJS (THOR)	RDTEN	-	10.1	22.3	35.6	61.0	76.3	80.5	285.8
	*20.	CAML	RDTEN	1.8	5.7	5.7	6.7	5.6	.3	.3	26.1
	*21.	Super Torch	RDTEN	-	4.3	3.2	3.5	3.6	3.6	3.8	22.0
	22.	VCX	RDTEN	-	32.6	-	-	-	-	-	32.6
	23.	TEWDS	RDTEN	-	8.8	6.9	19.8	24.4	29.5	31.2	120.6
	24.	MADAIR	RDTEN	-	2.3	3.7	4.0	4.1	4.1	4.3	22.5
	*25.	Buried Manhunt	RDTEN	2.1	1.8	5.0	6.6	6.4	7.9	8.3	38.1
	26.	IIR Harpoon	RDTEN	-	38.6	39.8	32.1	23.1	3.6	3.8	141.0
	*27.	HY 130 Steel	RDTEN	-	.7	1.8	-	-	-	-	2.5
	*28.	MDM	RDTEN	-	7.4	38.0	46.0	42.0	38.0	35.0	206.4
	29.	RECO	RDTEN	-	-	1.2	3.5	5.9	6.0	5.9	22.5
	30.	EMCARD	RDTEN	-	2.4	2.8	3.1	2.7	2.7	2.8	16.5
	31.	Mobile Trk Range	RDTEN	-	6.5	4.1	-	-	-	-	10.6
	*32.	DASS	RDTEN	-	3.8	1.4	1.3	.6	.6	.6	8.3
	33.	RFX	RDTEN	-	-	17.0	19.0	36.1	35.8	37.8	145.7
	34.	Dual Mini Sins	RDTEN	-	1.0	.5	-	-	-	-	1.5
	*35.	A-6/AWSACS	RDTEN	-	-	22.4	56.1	37.7	8.9	9.4	134.5
	36.	Linear Chair	RDTEN	-	4.0	1.4	-	-	-	-	5.4
	37.	VLS ASROC	RDTEN	-	15.3	27.6	20.4	12.7	.5	.5	77.0
	38.	AEPS II	RDTEN	-	-	2.7	3.2	3.3	3.6	3.8	16.6
	39.	SEAFIRE	RDTEN	-	1.8	17.0	17.5	16.5	7.0	7.3	67.1
	*40.	FIREBRAND	RDTEN	-	1.1	23.7	35.0	28.7	20.5	8.9	117.9

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Code	I. ACQUISITION INITIATIVES	Appn.	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	Total
(AX)	G. Elimination/Reduction of Marginal Programs/Systems (Con't)									
	*41. CH-46 Ext Tank	RDTEN	-	-	1.2	-	-	-	-	1.2
	42. PCOTES	RDTEN	-	5.0	5.0	-	-	-	-	10.0
	43. LINEAR ECM	RDTEN	-	-	7.9	3.7	3.1	-	-	14.7
	44. Navy Future Comm	RDTEN	-	2.7	5.0	5.9	6.2	6.9	7.2	33.9
	45. SXTF Closed	RDTEDA	-	18.1	22.6	14.2	5.7	5.5	-	66.1
	46. Navy OSHA	MCN	-	-	11.0	14.0	13.8	6.0	6.0	50.8
		OPN	-	3.5	3.0	3.0	3.0	3.0	3.0	18.5
		OMN	-	2.5	3.0	3.0	3.0	3.0	3.0	17.5
	*47. H-46 Emergency	OMN	-	-	-	.2	.2	.1	-	.5
	Egress Mod	APN	-	-	1.7	1.7	.7	-	-	4.1
	*48. H-46 AAR Mod	APN	-	-	1.4	3.6	5.3	4.3	-	14.6
		OMN					.5	.7	.5	1.7
	49. H-46 Ground Prox Modification	APN	-	-	-	5.6	5.8	3.6	-	15.0
	*50. S-3 Ejection Seat Modification	APN	-	-	2.1	2.1	1.9	-	-	6.1
	51. S-3 IFR Probe Modification	APN	-	-	1.7	1.7	-	-	-	3.4
	52. S-3 TACAN EXCAP Modification	APN	-	-	1.2	2.2	1.1	1.1	-	5.6
	*53. P-3 TACNAV Mod	APN	-	-	34.4	21.1	3.3	-	-	58.8
		OMN	-	-	-	2.0	2.0	.3	-	4.3
	54. 25 mm Gun Pod Mod	APN	-	-	-	8.9	33.6	64.6	-	107.1
	**55. ECM(ALR-45) Mod									
	*56. H-46 Fuel Tanks Modification	APN	-	-	-	6.9	7.3	.8	-	15.0
	*57. F-4, APR-43	APN	-	-	4.5	5.2	-	-	-	9.7
	Modification	OMN	-	-	.3	.8	1.1	.6	-	2.8
	*58. F-4, APR-118	APN	-	-	3.4	1.7	-	-	-	5.1
	Modification	OMN	-	-	.1	.7	.8	.4	-	2.0
	59. A-6 (AWSACS)	APN	-	-	-	-	4.9	107.7	101.7	214.3
	*60. P-3C(Multi-Signal/ BITE)	APN	-	-	2.3	7.3	1.3	5.2	-	16.1

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Code	I.	ACQUISITION INITIATIVES	Appn.	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	Total
(AX)	G.	Elimination/Reduction of Marginal Programs/Systems									
	61.	Terminal Guidance Sys	RDTEA	-	11.3	19.6	17.5	33.2	40.9	-	122.5
	62.	Smart Munitions	RDTEA	-	-	4.2	4.2	4.2	3.1	-	15.7
	63.	Field Army Surveying	RDTEA	-	-	-	.7	1.0	1.0	-	2.7
	**64.	Air Def Artillery JPO									
	65.	Fire & Forget HELLFIRE	RDTEA	-	27.7	61.0	83.1	74.4	25.5	-	271.7
	66.	Explosive Demolitions	RDTEA	-	-	1.5	2.8	2.3	2.3	-	8.9
	**67.	Tactical Display Sys									
	68.	Inf Anti-Armor Weapon	RDTEA	-	53.0	88.1	74.1	39.4	19.3	-	273.9
	*69.	ROLAND	MPA	-	14.4	-1.3	-	-	-	-	13.1
			RDTEA	-	-	12.4	9.3	1.0	1.0	-	58.9
	*70.	Standoff Tgt Acq Sys	APA	-	-	-	10.6	241.4	291.2	-	543.2
			RDTEA	-	71.7	51.5	-3.9	-40.8	-19.6	-	58.9
	71.	Adv Missile Sys Demo	RDTEAF	-	-	7.0	6.0	5.0	2.0	-	20.0
	*72.	AMRAAM Op Util Eval	RDTEAF	-	10.0	19.2	4.1	-	-	-	33.3
	**73.	Adv Cruise Missile Tech									
	*74.	Fuel Air Explosives	OPAF	-	-	-	-	-	95.6	-	95.6
	75.	JP-233 Airfield Atk Mun	RDTEAF	-	60.0	38.9	12.3	-	-	-	111.2
	76.	Comabat Acft Proto Dev	RDTEAF	-	22.5	25.6	10.2	-	-	-	58.3
	**77.	MX Integ Fuze & RES									
	78.	BMEWS L-Band Mos	RDTEAF	-	-	-	-	-	37.7	-	37.7
	79.	Adv Missile Propulsion	RDTEAF	-	-	9.5	14.3	19.0	21.9	-	64.7
	*80.	F-106/B-52 Simulators	RDTEAF	-	15.0	11.6	-	-	-	-	26.6
	*81.	Comp Trainer A/C (B-52)	APAF	-	3.9	141.6	-	-	-	-	145.5
			RDTEAF	-	21.1	5.9	-	-	-	-	27.0
	**82.	HAVE QUICK for SAV/MAC									
	83.	Ext Rnge Anti-Armor Mun	RDTEAF	-	1.0	23.9	20.0	14.0	10.0	-	68.9
		Total		14.6	601.0	1,621.6	1,675.8	1,543.9	1,946.2	1,041.6	8,444.7

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internal auditors. We make no suggestion that the military can do no wrong. Indeed, I am sure the military will be glad to support the statement that we do have a number of things that are desired and requested that we cut out, some because we disagree and some because we don't have the money to do them all. But there is no slight suggestion that the military gets all it wants by any means.

Mr. ADDABBO. Mr. Secretary, we have given to your office——

Secretary WEINBERGER. Just as one example, we cut out the MX-MPS system, which was about $40 billion. All the military had varied support for that system. We cut it out within the first few weeks we had been in office, so there should be no suggestion that they get everything they want, or we don't have internal controls.

In response to your specific question, we believe the statement that is made on page 7 of my statement is completely correct. To purge the legacy of cost overruns we inherited and to improve our weapons acquisition process, we have taken management steps that propose greater economy and efficiency.

There has been real progress. In fact, we estimate that our acquisition initiatives will save $16 billion over the 1981 to 1987 period.

Now we have done more than put that in a statement or make an estimate. We have put that into our budgets. We are required to save that amount to get the kinds of programs we have indicated a need for. We not only make that estimate, but it will have to be achieved, and it will be achieved.

Mr. ADDABBO. Mr. Secretary, you make a great statement, but we have made specific allegations. I think over a month ago we sent over this S&I report which looked at 16 acquisitions involving $2.1 billion in estimated savings, but we found only $152 million in savings.

I hope someone in your office would look at that S&I report. If our men are not doing the job, if they are just going on a fishing expedition, I would like to know because it is the taxpayer's dollars we are spending. We have to know whether there is careful review.

Is there careful review? We are looking at almost $250 billion in the fiscal year 1983 budget. I say that will represent a lot of military spending—not defense spending but military spending—because too often that encompasses waste. Defense spending buys us cost effective weapons.

As I say, we sent over this study and report and it showed this great difference, your claim of $2.1 billion in savings and our investigative staff—and these are qualified, good accountants, men who have lived with these programs—showing $152 million in savings.

It is not a question of figures against figures, but we are interested in how careful is your oversight.

Secretary WEINBERGER. We will be very glad, Mr. Chairman, without casting aspersions on anybody to show why we think the staff report is so very wrong. We will submit the details that back up the statements that I have given and that are in our other reports. We will be glad to do that.

Mr. ADDABBO. I would hope you would do it because again, these men on our investigative staff we send out, if they are wrong, or if they are not seeing things correctly, if they just want to show the military in a bad light, we want to know that, too.

Secretary Weinberger. We aren't casting any aspersions or challenging any motives, but we think the conclusions are just plain wrong, very wrong.

[The information follows:]

The following comments are proceeded by the relevant section of the S&I report.

A. E-3A PROCUREMENT AND PRODUCTION PLANS

S&I Report: Savings of $159 million were improperly claimed by the Air Force as the result of "restoration" of the original procurement program of two aircraft in fiscal year 1982 and two aircraft in fiscal year 1983 versus deferral of the production of fiscal year 1982 aircraft until fiscal year 1983. The fiscal year 1982-86 budget planned a reduction in production from two to zero aircraft in fiscal year 1982 and doubling of the original production from two to four aircraft in fiscal year 1983. The changes were regarded as nothing more than another "what if" exercise involving a proposed revision to an existing production plan. The revised plan was never seriously considered for implementation by the Air Force or the contractor because it would have caused a production break and nullified previously negotiated contracts on USAF and NATO aircraft. In fact, despite the deferred fiscal year 1982 funding, the contractor maintained the original production schedule and did not propose any change in negotiated contract prices. Consequently, the claimed savings represent illusory, rather than real, cost avoidance derived from not making a change—a change which no one intended to make in the first place.

DoD Comments: The Carter Administration submitted a budget with no E-3A aircraft in fiscal year 1982. This was the official position of the executive Branch. Whether or not the Carter Administration would have ultimately pursued that program if reelected is not known. The current Administration chose not to pursue that program due to the cost growth occasioned by the production interruption. It appears the contractor chose not to enter into an extensive repricing exercise based on his own estimate of what the next Administration would do.

B. E-3A PROCUREMENT OF RADAR AS GFE

S&I Report: An OSD decision would require the Air Force to procure the E-3A radar from the manufacturer and provide it as Government Furnished Equipment (GFE) in lieu of allowing the prime contractor to continue purchasing it as contractor furnished equipment. The action was aimed at saving the management fee paid to the prime contractor, estimated to total $51.3 million for fiscal year 1983-87. However, a study by the E-3A system program office indicated that the management fee saved would be $35.2 million, and that there was $30.2 million offsetting cost to obtain that benefit. In addition, the study concluded that the AWACS radar does not meet component breakout criteria and the marginal benefit does not justify taking this action. The Air Force emphasized that significant irreplaceable technical and management support would be lost, and therefore, an unacceptable risk would accrue to the program. In this instance, a savings is being claimed for a proposed imprudent decision which could result in costing the Government considerably more than it is expected to save.

DoD Comments: Subsequent to the promulgation of the 29 March Economics and Efficiencies Report, the Department has deferred break-out of the E-3A radar to a subsequent year when the Air Force will have negotiated an assignment clause with the prime contractor and more definitive cost and manpower data is available to ascertain the potential savings.

C. E-3A PROCUREMENT OF CONSOLES AS GFE

S&I Report: The Air Force estimates savings of $2.8 million will result from procuring the E-3A surveillance display consoles from the manufacturer and providing them as GFE in lieu of allowing the prime contractor to purchase them as contractor furnished equipment. Although the consoles appear to be valid candidates for component breakout, the Air Force erroneously computed the unit cost difference to be double the correct amount. The savings, therefore, should be $1.4 million instead of $2.8 million.

DoD Comments: The Air Force did not erroneously compute the unit savings. In addition to the $1.4 million associated with break-out of consoles installed in production aircraft there were savings of $1.4 million associated with break-out of additional consoles associated with an approved E-3A modification program.

D. E-4B PROCUREMENT PROGRAM REDUCTION

S&I Report: A decision to not procure two additional E-4B aircraft for the "looking glass" role of the Strategic Air Command (SAC) resulted in deletion of $569.5 million previously included for these items in the fiscal years 1982-86 budget. However, claiming that elimination of the aircraft was for the purpose of effecting economy in the program is misleading. The decision was simply due to a SAC determination that the E-4B would not meet its requirements. SAC will have to continue to use EC-135 aircraft for the mission pending replacement of the whole EC-135 aircraft for the mission pending replacement of the whole EC-135 fleet with another type of aircraft, currently planned for 1989-92. Therefore, the acquisition of new aircraft is being deferred rather than eliminated. In addition to not considering the offsetting cost of procuring alternate aircraft at a later time, the claimed savings failed to recognize the fact that with the two additional E-4B's, SAC was expected to be able to eliminate between 5 to 12 EC-135's.

DoD Comments: The SAC determination that the E-4B would not meet its requirements was based on the SAC belief that an additional aircraft beyond those programed was required to meet the total mission requirement, not that the E-4B aircraft as configured would not meet the mission requirement. The S&I staff is correct in the assumption that the EC-135's will ultimately have to be replaced and EC-135's will continue to operate in lieu of E-4B's. There is currently no approved program for the replacement of EC-135's and it should be noted that the Department claimed no O&S savings due to the termination of the last 2 E-4's.

E. F-16 MULTIYEAR CONTRACTING

S&I Report: The savings due to multiyear contracting for the F-16 program could not be validated due to the considerable confusion over the year-to-year accounting differences between the principals involved in the action. The following illustrates the variations in presentations of the estimated savings. All estimates are for a multiyear quantity of 480 aircraft.

TOA DOLLARS IN MILLIONS SAVED

Source	Fiscal year				Total
	1982	1983	1984	1985	
OSD economies and efficiencies report of February 8, 1982[1]	8.0	84.0	40.0	114.0	246.0
OSD economies and efficiencies report (revised) of March 29, 1982	29.0	58.8	83.8	87.9	259.5
F-16 SPO, Dayton, Ohio, computation of March 29, 1982	[3] −249.2	162.5	201.5	144.7	259.5
General Dynamics Ft. Worth, TX, computation of March 31, 1982[2]	28.4	67.8	99.4	130.2	325.8

[1] Estimates prior to new escalation index availability.
[2] CPE Air Vehicle only. Escalation index does not agree with official Air Force guidance.
[3] Reflects first year termination liability funding.

It should be noted that the multiyear quantity is actually 435 aircraft, not the 480 used in the computations. The first 45 aircraft will not benefit from the contracting technique used due to long lead procurements and production commitments.

The savings reported by OSD in the revised Economies and Efficiencies Report (March 29, 1982) do not take into consideration the termination liability aspect of multiyear contracting which will be funded in fiscal year 1982.

There is agreement that use of multiyear contracting lowers unit cost and thereby reduces total program cost, when the quantity buy remains unchanged. A comparison of the F-16 multiyear at 10 aircraft per month versus annual foreign at 10 per month would demonstrate that the multiyear option will cost significantly less. However, in a comparison of TOA needed for a multiyear buy of 10 per month versus annual funding based on a buy of 8 per month, the multiyear option does not produce overall savings in TOA for the years involved, but does yield more aircraft procured at a lower average unit costs.

DoD Comments: The $246.0 million savings contained in the 2/8/82 E&E Report did not utilize the latest OSD inflation estimates. The savings reported by OSD in the 29 March, 1982 E&E Report were made on the basis of savings each year as a result of the multiyear contract. The SPO estimated savings (identical to the 29 March, 1982 OSD E&E Report in total) depicted net TOA changes each year, not the estimated savings each year. The $325.8 million savings claimed by General Dynamics were associated with their own estimate of inflation, not the OSD approved rates.

Forty five of the aircraft in the MYP are part of a previous multiyear contract between General Dynamics and its subcontractors wherein General Dynamics had negotiated a multiyear price with its subcontractors. General Dynamics has indicated that they will reexamine these contracts to see if they can be renegotiated to the extent additional savings can be achieved as a result of the multiyear. These 45 aircraft will, however enjoy savings associated with the multiyear contract associated with General Dynamics overhead and subassembly and assembly of items furnished by these vendors.

The fact that the total F-16 program has increased by 597 aircraft with associated cost does not alter the fact that 480 aircraft included in the total program will cost $259.5 million less due to execution of the multiyear contract.

F. F-16 BUY ACCELERATION

S&I Report: Savings of $747 million originally estimated for fiscal years 1982-86 as the result of increasing the F-16 annual procurement rate from 96 aircraft (8 per month) to 120 aircraft (10 per month) were subsequently revised to $851.7 million. However, current production plans do not provide for a decrease in the F-16 TOA to be required due to increased program quantities and higher production rates. The requirements associated with the January 1981 FYDP was 1,388 aircraft, while the February 1982 FYDP shows an increase to 1,985 aircraft. The original estimated total program costs for 1,388 aircraft was $20.3 billion and for the revised estimate of 1,985 aircraft the costs increased to $40.9 billion.

The total of 597 additional aircraft are a combination of 59 F-16 C/D aircraft and 538 derivative F-16 Aircraft needed for the new air-to-ground fighter mission. The 59 aircraft are included to stabilize production at General Dynamics until such time that the derivative F-16 can achieve reasonable production rates. Undoubtedly, the Air Force can justify on a mission requirement basis the need for the additional 59 aircraft. These 59 aircraft do not appear to be required on the eight per month quantity of the original program of 1,388 aircraft, which would allow for smoother transition to the production phase-in of the derivative F-16's. Using the Air Force average unit cost for fiscal year 1986, these 59 F-16 C/D aircraft will cost $1,074 million. Compared to the latest estimated savings for fiscal years 1982-86 of $851.7 million, this shows an additional TOA requirement of approximately $222 million.

The unit cost for the acceleration of production is indeed less and more aircraft are available for the Air Force. However, even without the additional 59 F-16 C/D's associated with the 10 per month rate, the annual TOA for increased production exceeds the annual TOA for the eight per month option.

DoD Comments: The S&I discussion of the reported economies and efficiences in the procurement of these aircraft seems to be concerned with the requirement to increase TOA to obtain savings from more efficient production rates. The S&I staff implies that no savings exist because TOA had to be added to achieve the savings. This implication is misleading. It is true that next year TOA requirements increase when production rates are increased but unit cost and total programs costs are decreased. The economies and efficiencies report attempts to capture these total program cost decreses by showing the unit cost impacts in the applicable years.

G. CH-53E AIRCRAFT PRODUCTION RATE

S&I Report: The Navy is claiming $10.9 million net savings for fiscal year 1982 based upon lower unit flyaway cost resulting from an improved economic production rate. The unit flyaway cost as of January 1981 was $17.9 million for 11 aircraft, as compared with the current flyaway cost of $16.9 million for 14 aircraft. Applying the unit price difference to the original 11 aircraft produces the $10.9 million in savings.

Based on prime contractor input, the Navy's claim that $10.9 million can be saved due to an improved economic production rate appears reasonable. However, more TOA will be needed to fund the additional aircraft, increasing the cost during fiscal year 1982.

DoD Comments: Since the S&I report accepted the savings related to this initiative no further comments are offered.

H. SH-60B ACCELERATED PROCUREMENT

S&I Report: Savings of $26.7 million are expected in fiscal year 1986 due to accelerating the procurement of 10 aircraft from fiscal year 1986 to fiscal year 1982. The November 1981 cost sheet depicts the fiscal year 1986 unit cost at $14.2 million. The Navy adjusted the unit cost downward to compensate for the change in the production business base. This resulted in a per unit cost of $11.5 million in fiscal year 1982; a saving of $2.7 million per unit in escalation costs by moving the procurement ahead of schedule. The $2.7 million per unit saving is multiplied by the 10 aircraft to produce the claimed savings of $26.7 million in fiscal year 1986. Based on the data supplied by the contractor, the savings appear to be valid.

DoD Comments: Since the S&I report accepted the savings related to this initiative no further comments are offered.

I. CH-53E ACCELARATED DELIVERY SCHEDULE

S&I Report: The Navy estimates svings of $10 million to be achieved by the contractor's decreasing both production and component leadtimes that resulted in an accelerated production cycle. The resultant reduction of the aircraft funded delivery period from 42 to 37 months, served to lower the impact of overhaul and escalation. The $10 million savings resulted when fiscal year 1981 and fiscal year 1982 production leadtimes were each compressed by 2 months and the fiscal year 1983 and fiscal year 1984 programs were each moved forward by 4 months with the estimated savings in escalation costs. Additional savings accrue from the reduced labor hours associated with each of these lots. Based on the data supplied by the contractor, the savings appear to be achievable.

DoD Comments: Since the S&I report accepted the savings related to this initiative no further comments are offered.

J. CH-53E MULTIYEAR PROCUREMENT

S&I Report: Savings of $35 million are estimated to result from a multiyear procurement of 61 aircraft beginning in fiscal year 1984 and continuing through fiscal year 1988. Calculations are based on a comparison of the multiyear program with an annually contracted program of a comparable quantity. The Navy claims the CH-53E meets the criteria for multiyear procurement because the procurement requirement for the planned period is expected to remain stable and configuration changes will have been identified prior to the contract award. The savings are expected to occur because the prime contractor will have increased prograns and production stability, and his risks are reduced. The prime contractor estimates a $48 million savings (constant 1981 dollars) which is a 6.6 percent savings over an annual procurement program. Based on the data supplied by the contractor, the savings appear to be achievable providing all projected events take place.

DoD Comments: Since the S&I report accepted the savings related to this initiative no further comments are offered.

K. C-2A MULTIYEAR PROCUREMENT

S&I Report: The Navy's claim to $58.4 million in savings over a five multiyear procurement program (fiscal years 1983-87) appears reasonable because design stability makes it a good multiyear candidate. However, whether the benefits or multiyear procurement can be achieved depends upon whether vendors can be committed to economic ordering practices. At present about 15 percent of the vendors are "locked up." Many more must be committed to the prime contractor's procurement plan to realize the projected savings. Certain vendors, such as the landing gear manufacturer, may be unable to deliver at desired rates due to their own production and other limitations.

Other factors may diminish the projected savings. For example, if the prime contractor's overall business base shrinks the unit price for the C-2A will probably increase. Likewise, if E-2C aircraft procurement quantity is reduced, C-2A costs will escalate. More importantly vendor cooperation with the multiyear concept is essential to financial success. Until vendors are actually under contract, multiyear savings predictions, particularly in the outyears where most savings occurs, may prove as ephemeral as a warm day in the artic.

DoD Comments: Since the S&I report accepted the savings related to this initiative no further comments are offered.

L. EA-6B MULTIYEAR PROCUREMENT AND IMPROVED PRODUCTION RATES

S&I Report: The Navy's claim to $36.8 million savings based on lower unit cost achieved by raising production from two to six in fiscal years 1982-83, will actually increase TOA while providing the lower unit price per aircraft.

On the other hand, savings of $25.5 million projected over a 4-year multiyear buy (fiscal years 1984-87) rests on unrealistic assumptions that optimum conditions would prevail. The program manager indicated that avionics changes could require design modifications to increase the cooling capacity for all electronics equipment. Major suppliers, particularly those building parts common to the A-6, must permit economic order buys. Fluctuations in the prime contractor's business base, difficult to accurately predict in fiscal year 1984 through 1987, could also raise unit cost.

Moreover, contractor cost estimates differ dramatically from Navy pricing of this multiyear plan as seen in the comparison for 24 airframes, fiscal year 1984-87:

	Annual buy	Multiyear
Contractor	$542.2	$500.4
Navy	429.6	408.5
Difference	112.6	91.9

DoD Comments: The S&I discussion of the reported economies and efficiencies in the procurement of these aircraft seems to be concerned with two issues. The first issue is the requirement to increase TOA to obtain savings from more efficient production rates. The S&I staff implies that no savings exist because TOA had to be added to achieve the savings. This implication is misleading. It is true that near year TOA requirements increase when production rates are increased but unit cost and total program costs are decreased. The economy and efficiency report attempts to capture these total program cost decreases by showing the unit cost impacts in the applicable years.

The second concern revolves around the possibility that assumptions made in estimating multiyear procurement costs might not be borne out by experience. The Department uses its best judgement in estimating program costs. The Department considers the multiyear procurement economy estimates reasonable and realistic. If anything, experience is showing that our estimates were conservative and that even higher savings may be achieved.

M. A-6E MULTIYEAR PROCUREMENT AND IMPROVED PRODUCTION RATES

S&I Report: Savings of $58.4 million for fiscal year 1982 and fiscal year 1983 accrue from improved economic production rates, increasing from 4 to 12 aircraft in fiscal year 1982 and from 4 to 8 aircraft in fiscal year 1983.

Contractor data suggests this amount may be somewhat overstated. It should also be noted that savings represent unit cost savings and not TOA economies since the increased number of aircraft in the Reagan budgets for fiscal year 1982 and fiscal year 1983 would require more funding.

Savings of $20.3 million for a multiyear procurement of 44 aircraft fiscal year 1984 through fiscal year 1987, versus an annual buy, appear attainable. However, these estimates may erode in the face of optimistic tooling assumptions or possible design changes to accommodate the HARM and HARPOON missile weapon systems.

DoD Comments: The S&I discussion of the reported economies and efficiencies in the procurement of these aircraft seem to be concerned with two issues. The first issue is the requirement to increase TOA to obtain savings from more efficient production rates. The S&I staff implies that no savings exist because TOA had to be added to achieve the savings. This implication is misleading. It is true that near year TOA requirements increase when production rates are increased but unit cost and total program costs are decreased. The economy and efficiency report attempts to capture these total program cost decreases by showing the unit cost impacts in the applicable years.

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N. F-14A ECONOMIC PRODUCTION RATES

S&I Report: DoD claimed net savings of $70.9 million for fiscal year 1982 and fiscal year 1983 is based on flyaway unit cost economies. Examination of available data indicates this amount to be attainable. However, it should be noted that the increased production rates will actually add cost to the TOA for these years. The claimed savings will never materialize due to the increase in aircraft program requirement from 509 (Carter) to 845 (Reagan).

DoD Comments: The S&I discussion of the reported economies and efficiencies in the procurement of these aircraft seem to be concerned with two issues. The first issue is the requirement to increase TOA to obtain savings from more efficient production rates. The S&I staff implies that no savings exist because TOA had to be added to achieve the savings. This implication is misleading. It is true that near year TOA requirements increase when production rates are increased but unit cost and total program costs are decreased. The economy and efficiency report attempts to capture these total program cost decreases by showing the unit cost impacts in the applicable years.

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WASTEFUL YEAR-END SPENDING

Mr. **Addabbo**. On August 4 Dave Stockman, the Director of OMB, issued a memo to the various heads of the particular departments and agencies and asked that they give special attention to the problem of wasteful year-end spending by federal officials who obligate funds simply so that the funds will not be reported as unobligated or lapse at the end of the year.

In Mr. Stockman's request he says that this should be given personal attention by the heads of the departments. Has this matter been given attention by your department and what specific instructions have you issued in response to this memo?

Secretary **Weinberger**. It has indeed been given personal response, and I am personally very familiar with both the practice and the need for such a letter and commented on it as recently as yesterday in a staff meeting.

We have sent out copies of Mr. Stockman's letter, which is the same letter I sent out when I was at OMB, to all of the various military departments and services and units of the department. We feel very strongly that this year-end spending, or white sales as we used to call them, not take place.

Mr. **Addabbo**. In their request OMB said special attention should be addressed to the need to control travel. We see in a recent newspaper article that travel reductions in domestic agencies had been more than offset by travel increases in the Department of Defense.

Is there any fact to that?

Secretary **Weinberger**. The problem the article doesn't address is that we have in the general category of travel all of our deployments and various troop movements. Our administrative travel has gone down, and that figure is comparable with other departments.

Dr. Borsting calls my attention to the fact that there are also some increases caused by the increases in per diem authorized by the Congress which is categorized as part of travel pay.

Mr. **Addabbo**. When we look to the question of travel, we look for excesses in that program. If certain travel is not necessary, it shouldn't be done. One of the things that has been brought to our attention is that the Congress has made a modest reduction in the external assistance contract funds in fiscal year 1982.

In that program, instead of taking the direction of the Congress by reducing the number of contracts, they went ahead and reduced the travel for the monitors on those contracts.

That was not our intention. The intention was to reduce the contracts and not those who are looking to whether those contracts are being properly performed.

Please answer the following questions for the record.

Thank you, Mr. Secretary.

[CLERK'S NOTE.—Questions submitted by Mr. Addabbo and the answers thereto follow:]

PROPOSED DEFENSE BUDGET REDUCTIONS

Question. Mr. Secretary, you mentioned in your statement that the House Appropriations Committee has proposed reductions in the Defense budget below that which the Congress actually voted under Section 302 of the budget resolution. I would like to note that the budget resolution allocated a total target of budget authority and outlays for the federal government, with suggested Section 302 allocations for the various budget functional categories. Are you aware that under the Budget Control and Impoundment Act of 1974 each Committee of the House has the responsibility and the authority to divide its total allocation among its various subcommittees, and that is the only allocation that has official standing in the House for the purpose of scorekeeping against the budget resolution?

Answer. Yes, we are aware of that. However, we are still concerned with reductions to our defense programs on the order of the $11-12 billion being considered.

DEFENSE SPENDING AND THE DEFICIT

Question. Mr. Secretary, we will place in the record at this point an excerpt from a DoD document supporting the defense budget. It measures the defense budgets since the end of World War II in constant dollars.

[CLERK'S NOTE.—Table is on the next page.]

As shown in this table the proposed fiscal year 1983 defense budget has been exceeded only once since the end of World War II and that was at the height of the Korean war. You have requested a peacetime defense budget for fiscal year 1983 that is almost $20 billion higher than our highest defense budget during the Vietnam war—again I emphasize these statistics are expressed in constant dollars.

Of course, the rapid increase in defense spending is contributing significantly to the deficit.

What is your "threshold of pain" with regard to the size of the deficit? At what level does it cause you real concern?

$100 Billion?;
$125 Billion?;
$150 Billion?

If the economic situation continues to deteriorate, and fiscal realities dictate that further reductions be made in Federal spending to lower the enormous deficits, would you be willing to "offer up" some defense programs in the interest of fiscal prudence?

Answer. We in DoD are very sensitive to the fiscal problems our country faces. While our economy as we know it might not exist were it not for our armed forces, it is equally true that we cannot maintain the sustained effort required to rearm America without a healthy economy. A strong economy and a strong defense are compatible, not mutually exclusive.

Although the U.S. economy is not growing as we would like at this time, and therefore, large deficits are likely to persist at least for the near future, we still recognize the primary need to fund an adequate national defense. Just as the problems in the economy such as federal deficits were not caused by excessive defense spending, cuts in the defense budget will not provide quick fixes for the economy or wipe out our deficits. Our defense program, with the appropriate mix of modernization, readiness sustainability, and force levels, is derived directly from our national security objectives. The increases in the defense budget should complement rather than impede gross private domestic investment. Defense budget reductions may weaken the country's economic base which we are trying to revitalize and such reductions will not necessarily reduce the deficit.

PROLONGED NUCLEAR WAR

Question. Mr. Secretary, a number of the Administration's initiatives in defense spending are related to preparation for the possibility of a prolonged nuclear war. Billions upon billions of dollars are to be expended on communications, command and control systems and weapon systems for that war scenario. The Committee is advised that your guidance for structuring the armed forces for fiscal 1984 through 1988 places relatively high emphasis on developing the capability to conduct a prolonged nuclear conflict.

According to press reports, in June of this year General Jones, the now retired former Chairman of the Joint Chiefs of Staff, is quoted as saying with regard to prolonged nuclear war. "If you really put a lot of emphasis on it, you've got a bottomless pit in terms of dollars."

As the Committee, which is charged by the House with recommending the appropriate level of funding for specific DoD programs, how can we carry out this responsibility in a logical manner when we receive such conflicting information from top Defense experts?

Answer. It is the first and foremost goal of this Administration to take every step to ensure that nuclear weapons are never used again, for we do not believe there could be any "winners" in a nuclear war. Out entire strategy aims to deter war of all kinds, but most particularly to deter nuclear war. To accomplish this objective, out forces must be able to respond in a measured and prudent manner to the threat posed by the Soviet Union. That will require the improvements in our strategic forces that the President has proposed. But it does not mean that we endorse the concept of protracted nuclear war, or nuclear "war-fighting." It is the Soviet Union that appears to be building forces for a "protracted" conflict.

The Department of Defense is making every effort to modernize our nuclear forces in such a way that the United States retains the capability to deter the Soviet Union from ever beginning a nuclear war. We must take the steps necessary to match the Soviet Union's greatly improved nuclear capability.

That is exactly why we must have a capability for a survivable and enduring response—to demonstrate that our strategic forces could survive Soviet strikes over an extended period. Thus we believe we could deter any attack. Otherwise we would be tempting them to employ nuclear weapons or try to blackmail us. In short, we cannot afford to place ourselves in the position where the survivability of our deterrent would force the President to choose between using our strategic forces before they were destroyed or surrendering.

Our entire strategic program has been developed with the express intention of assuring that nuclear war will never be fought.

[Clerk's note.—We will place in the record at this point the article in which General Jones' views are expressed.]

Preparing for Long Nuclear War Is Waste of Funds, General Jones Says

(By George C. Wilson)

The nation's top soldier left office yesterday with the warning that it would be throwing money in a "bottomless pit" to try to prepare the United States for a long nuclear war with the Soviet Union.

Gen. David C. Jones, chairman of the Joint Chiefs of Staff for the last four years, said he doubted that any nuclear exchange between the Soviets and the United States could be contained, but would escalate into an all-out war.

Rather than spend the billions of dollars it would take to prepare the nation for a protracted nuclear war, Jones said, it would make more sense to build up American forces for more likely non-nuclear conflicts in distant trouble spots.

"I don't see much of a chance of nuclear war being limited or protracted," said Jones, who has pondered various doomsday scenarios during much of his 40 years in uniform. "I see great difficulty" in keeping any kind of nuclear exchange between the United States and the Soviet Union from escalating.

Defining "protracted nuclear war" as one lasting "weeks or months," the 60-year-olf four-star general said: "If you really put a lot of emphasis on it, you've got a bottomless pit in terms of dollars."

He said that even if one were to say "'I'm going to do everything to try to fight a protracted nuclear war,' the resources for that are too great" even if the Reagan administration achieves its goal of increasing defense spending by 7 percent a year after allowing for inflation.

With that increase, he said, "We're going to have a hard time doing what is already on the books. We are in the priority business. We have greater needs" than trying to prepare the United States for protracted nuclear war, needs such as paying for the forces and weapons needed to rush to distant trouble spots.

His contention that there is not enough money in sight to gear up for lengthy nuclear wars came in response to questions about the guidance Defense Secretary Caspar W. Weinberger recently issued to the military services to help them structure their forces in the five-year period from fiscal years 1984 through 1988.

In a headline May 30, the New York Times portrayed the guidance as the "first strategy for fighting a long nuclear war," and said in an accompanying article that the Reagan administration was embarked on a "new nuclear strategy."

The Times report brought a public protest from the Soviet Union and denials from U.S. officials that waging protracted nuclear war is "something that we are planning to do." Officials also said there was little new in the guidance.

At a briefing, a high Pentagon official, who could not be identified under the ground rules, said:

"The important thing to bear in mind here is that no one is suggesting in this guidance that a protracted [nuclear] war is a good thing, a desirable thing, something that we want to do, something that we are planning to do. But the capability of dealing with a protracted attack upon us is important to develop, because if we develop the capability . . . we can hope to deter it.

"We can hope to prevent it from ever coming. What was being said at that point in the guidance was that we may face a protracted nuclear war; that the capability seems to be there on the other side; it is therefore vital that we try to develop a capability that can be perceived correctly as being able to deal with this kind of ghastly situation . . . We would be derelict in our duty if we did not plan to meet this kind of possible attack."

Jones said yesterday that he considered the Weinberger guidance "evolutionary" rather than "revolutionary." He said the big decisions that would be required to prepare the United States for protracted nuclear war, such as a massive civil defense program, have not been made.

What the United States has done so far to prepare for limited and/or protracted nuclear war includes giving missile-launching systems the capability to respond in kind to a Soviet attack—such as firing only a few warheads at strictly military targets—and hardening communication links so that the president and other decision makers could keep in touch with military commanders during a nuclear attack.

James R. Schlesinger, defense secretary from 1973 to 1975, pushed the development of missile-firing systems for limited nuclear war. Shortly before leaving office, President Carter issued directives calling for improved command, control and communications for nuclear war and the targeting of Soviet decision makers and military targets.

Presidential Directive 59, issued in 1980, stressed that the Soviets should not be allowed to win either a conventional or a nuclear war for want of adequate U.S. responses. President Reagan has built upon that concept in his five-year strategic program, partly by allocating more money than his predecessors for command and control equipment needed to wage nuclear war.

The Weinberger guidance for structuring the armed forces for fiscal 1984 through 1988 includes these statements about protracted nuclear war:

"Should deterrence fail and strategic nuclear war with the U.S.S.R. occur, the United States must prevail and be able to force the Soviet Union to seek earliest termination of hostilities on terms favorable to the United States. This requires:

"Forces capable, under all conditions of war initiation, of attacking a wide range of targets, even when retaliating to a massive strike received without strategic warning. . . .

"Employment plans that assure U.S. strategic nuclear forces can render ineffective the total Soviet, and Soviet allied, military and political power structure through attacks on political/military leadership and associated control facilities, nuclear and conventional forces and industry critical to military power. . . .

"Forces that will maintain, throughout a protracted conflict period and afterward, the capability to inflict very high levels of damage against the industrial/economic base of the Soviet Union and her allies so that they have a strong incentive to seek conflict termination short of an all-out attack on our cities and economic assets.

"U.S. strategic nuclear forces and supporting" communications, control and command systems "capable of supporting controlled nuclear counterattacks over a protracted period while maintaining a reserve of nuclear forces sufficient for trans- and post-attack protection and coercion. . . ."

MILITARY MANPOWER

Question. In recent testimony before the Senate Armed Services Committee, your Administration agreed to support a 4 percent raise for military personnel in 1983. Your Assistant Secretary, Dr. Korb, also indicated that there were no plans to seek a "catch-up" raise in

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CONSTANT DOLLARS   BASE YEAR IS FY 83

6-3 DEPARTMENT OF DEFENSE
TOA BY PROGRAM
($ MILLIONS)

FISCAL YEAR	STRATEGIC FORCES	GENERAL PURPOSE FORCES	INTELL AND COMMS	AIRLIFT AND SEALIFT	GUARD + RESERVE FORCES	RESEARCH AND DEVELMNT	CENTRAL SUPPLY-MAINT	TNG.MED OTHER ACT	ADMIN + ASSOC ACT	SUPPORT TO OTHER NATIONS	UNDIS	TOTAL
FY 45	72,110	299,654	21,321	13,607		10,344	76,217	74,132	12,575	1,047		581,207
FY 46	27,327	125,641	10,619	8,753	4,089	6,831	37,521	49,915	7,822	3,779		282,298
FY 47	8,885	41,867	3,586	2,239	1,875	2,802	16,861	15,760	3,807	229		97,911
FY 48	8,312	30,370	3,637	1,941	2,912	2,453	12,542	12,305	2,445	181		77,100
FY 49	8,916	31,288	3,477	2,178	5,248	2,635	13,071	13,276	2,462	181		82,731
FY 50	11,660	29,370	3,146	1,807	6,232	2,456	12,627	13,166	2,181	175		82,820
FY 51	35,428	102,829	8,853	4,485	4,523	5,424	26,947	26,764	4,904	341		220,498
FY 52	52,310	128,294	11,415	5,557	5,042	6,265	33,910	34,299	5,938	438		283,363
FY 53	40,205	90,469	10,263	5,042	5,037	7,196	28,188	30,740	5,878	361		223,378
FY 54	23,528	62,732	7,970	3,622	5,387	6,079	21,925	26,399	4,297	274		162,413
FY 55	31,455	66,521	7,314	2,396	5,971	5,398	18,807	27,327	4,179	511		169,880
FY 56	41,642	64,060	7,950	3,967	6,533	6,256	19,033	24,545	4,759	322		179,057
FY 57	46,639	61,856	8,578	3,693	7,621	7,265	19,031	23,601	4,621	329		183,436
FY 58	45,311	63,710	8,568	3,862	7,654	6,822	17,707	22,729	4,526	296		181,186
FY 59	47,945	58,516	9,048	4,402	7,191	8,757	17,607	21,672	4,524	303		179,965
FY 60	41,481	55,385	9,111	3,913	7,051	9,527	16,890	21,641	4,208	278		169,485
FY 61	47,927	60,189	9,770	3,791	7,121	11,206	16,533	22,416	4,117	290		183,361
FY 62	42,552	68,686	11,952	3,792	7,105	14,311	17,649	25,716	4,449	294		196,507
FY 63	37,958	67,449	14,313	3,886	6,821	16,511	17,593	27,503	4,564	327		196,926
FY 64	31,828	64,172	15,679	3,902	7,300	16,227	17,453	28,537	4,366	364		189,829
FY 65	22,890	66,941	15,014	4,420	7,134	15,282	17,728	29,568	4,474	643		184,095
FY 66	20,930	93,778	16,069	4,802	7,864	14,943	22,358	34,633	5,234	3,415		224,025
FY 67	20,593	99,180	16,572	5,535	8,566	14,089	25,972	38,219	4,438	5,387		238,551
FY 68	22,727	95,686	17,116	5,420	7,445	12,466	26,710	41,657	4,226	5,412		238,866
FY 69	25,084	88,737	17,287	4,375	6,975	12,531	28,465	41,536	4,304	6,706		235,999
FY 70	19,486	78,412	15,396	4,625	7,566	12,226	25,740	40,403	4,348	6,092		214,295
FY 71	18,840	65,284	14,125	3,485	7,432	11,912	22,346	39,518	4,304	6,113		193,360
FY 72	17,611	62,154	13,231	2,764	8,189	13,283	21,818	37,836	4,285	6,269		187,440
FY 73	16,343	56,632	12,857	1,971	8,810	13,965	20,316	36,902	4,177	5,712		177,685
FY 74	14,094	57,231	12,286	1,628	9,056	13,615	18,165	37,713	3,925	2,040		169,752
FY 75	13,960	54,000	12,056	1,764	9,329	14,087	17,713	38,165	4,028	471		165,572
FY 76	13,087	59,435	11,877	2,327	9,744	14,918	17,577	38,170	4,040	464		171,640
FY 7T	2,964	11,804	2,591	497	2,203	3,616	3,900	9,163	932	68		37,736
FY 77	15,662	63,526	12,208	2,614	9,959	15,866	18,480	37,478	3,520	355		179,668
FY 78	14,117	65,098	12,023	2,591	10,758	15,159	18,426	37,212	3,434	390		179,208
FY 79	12,067	66,838	11,305	2,602	10,279	14,975	18,324	37,607	3,419	606		178,021
FY 80	14,177	67,496	11,579	2,730	10,234	14,846	18,992	38,210	3,230	806		182,305
FY 81	14,422	78,894	12,774	3,344	11,307	16,180	19,632	40,718	3,812	1,086		202,169
FY 82	16,717	93,794	14,785	4,295	12,421	17,869	19,939	43,065	3,851	1,068		227,803
FY 83	23,126	107,108	17,987	4,325	13,532	20,170	22,343	44,296	4,245	851		257,983

1984 to make up for the 4 percent limit next year: Do these plans accurately reflect your Administration's position?

Answer. Yes.

Question. Decisions about military pay raises involve large dollars in a period of intense fiscal austerity. Thus, the Congress needs to know current and future manpower needs of the services in order to provide adequate pay raises but also hold down costs. Yet we have little information about manpower plans. For example, the Congress has no formal plan from the Administration for the needed quality of recruits in each service, even though this factor greatly affects required pay. And, except for a special report required of the Navy, we have no formal plan for sizes of military career forces beyond the budget year. It would seem helpful to have a five-year manpower plan, limited to a few pages of detail and approved not only by each service, but also by you. Would you support the principle of such a plan? Would you ask your staff to work with the Congress to determine details for such a plan?

Answer. The planning and programming cycle in the Department of Defense involves continual refinement of five-year objectives across the entire spectrum of Defense operations. This includes the Department's plans for the quality, quantity, and experience mix of active duty military manpower over an ever-moving five-year horizon. This planning system is an internal management tool providing the framework for near-term budget development within the context of a longer-term planning horizon. We would have no objection to providing the Congress with general information on our future manpower needs based on these internal plans. However, because the Department wishes to maintain the integrity of the system, especially the planning flexibility it affords for the mid- to long-term, this must remain on a general basis. Detailed manpower figures beyond the budget year are not releasable primarily because they are the product of internal planning assumptions subject to many dynamics, and may undergo a number of changes before appearing in a budget request.

Question. You have often stated a willingness to retire forces early in order to hold down manpower and operating costs. In fact, I believe that your office submitted proposed early retirements earlier this year, some of which were not included in the authorization bill. These included early retirement of Navy ships, retirement of an Air Force wing, and retirement of 4 Army battalions. If fiscal austerity forces further cuts, would you still support these reductions? Could you supply the Subcommittee with further details on your earlier proposals?

Answer. Last May we submitted a list of specific—and very painful—programmatic reductions to the Senate Armed Services Committee as part of the President's commitment to the Senate Budget Committee budget resolution that proposed reducing the fiscal year 1983 defense budget by some five billion dollars in outlays. That list did contain the proposed early retirements of certain elements of our combat forces as you state. That proposal was consistent with our position that, in implementing reductions in our budget, we should be prepared to reduce our force structure, if necessary, in order to protect the essential readiness, sustainability and modernization of our remaining forces. In other words, we would prefer to maintain smaller but combat ready, sustainable and well-equipped forces, than to revert to the practices of the past of attempting to maintain larger forces at the expense of their readiness, sustainability and modernization. However, Congress has seen fit to reject this position by implementing different reductions than we proposed in the authorization bill. In the face of these other reductions that we oppose, we cannot now support the force retirements we proposed to the Senate last May.

Question. The flying reserves tend to have very high readiness levels, in part because all their pilots have active-duty experience. This suggests that one way to meet expanding manpower requirements in the Air Force, while also holding down costs, would be to give more missions to the reserves. Is this an approach that the Air Force or your office is examining? Could you comment on the desirability and problems of the strategy as well as missions that might be candidates for an expanded reserve?

Answer. The Air Force is proud of the high readiness levels attained by its Air National Guard and Air Force Reserve Forces. These high levels of readiness are due, in large part, to the meaningful missions flown by the Air Reserve Forces during peacetime. The Air Force has continually reviewed its force structure, examining possible new or expanded roles for its Air Reserve Forces in order to meet its mission requirements while also holding down costs. A sizeable portion of the planned growth in the tactical fighter force structure between now and 1990 will be achieved by converting and expanding the roles of the Air Reserve Forces.

ARMY FORCE STRUCTURE

Question. We are informed that because of the recession more men and women are trying to enlist in the Army than can be accepted under current personnel ceilings. By failing to opt for a larger force, isn't the Army wasting an opportunity to fill that expanded force with high quality volunteers?

Answer. The Army's top priority is to "fix the current force" before undertaking a major force expansion. To do that, major emphasis is being placed on equipping the Total Army, active and reserve. Together with the absolute necessity to continue the recently begun—and long overdue—modernization effort, fiscal constraints preclude simultaneously expanding the force, even though the current recruiting environment is coducive to acquiring large numbers of men and women. Nevertheless, the quality of the Army has markedly improved recently as both recruiting and retention standards have been increased with a resultant improvement in overall force effectiveness. Should our ability to attract and retain sufficient numbers of high quality people continue, that factor, combined with improved equipment levels and modernized items, will produce a far more effective Army in the years ahead and provide a solid foundation for force expansion.

Question. This Committee has been warning for several years that the Army's "bow wave" problem would prevent buying all the new systems being planned. Last October, GAO issued a report with the self-explanatory title: "Budgetary Pressures Created by the Army's Plans to Procure New Major Weapon Systems Are Just

Beginning." How will the Army be able to pay for these systems, even after growth in force structure is minimized?

Answer. The Army continues to lag behind the other services in the modernization of mission equipment. This lag exists in spite of the modernization of Warsaw Pact forces which has contined for more than ten years, The procurement of new Army weapons systems is essential to meet its readiness requirements based on the current and projected force structure and to permit the Army to meet the Warsaw Pact threat. The "bow wave" problem is being continually addressed in the development of the long range research, development and acquistion plan from which the Army's annual budget is developed. This is accomplished by prioritizing the systems in the research, development and acquisition program based on the need to meet the threat and minimize readiness shortfalls. Analyses are then performed at the margin, those programs which fall just above and below the funded level, to determine which will eventually receive funding support. In this manner the Army curbs its appetite to those systems which are considered to be the most essential and affordable, both now and in the long term. The development of the Army budget each year prunes lower priority programs by killing or deferring as required.

Question. Which of the Army's systems would you suggest be cancelled as a means of resolving this program?

Answer. The Army does not maintain a candidate list of weapon systems to be cancelled or deferred in order to resolve the perceived "bow wave" problem. Such decisions are made when all Army programs, not just weapon system programs, are reviewed simultaneously and adjusted in order to provide the most capable, balanced force within the established Total Obligation Authority (TOA).

MILITARY PAY

Question. This Administration and the Congress must find ways to limit the growth in all types of spending, including defense. One possibility is to hold down overall military pay raises and use bonuses—both reenlistment and enlistment bonuses—to meet shortages as they occur. Are you considering this strategy as you examine pay increases for this year and future years?

Answer. We would agree, under the terms of the First Concurrent Budget Resolution adopted by Congress, to limit the military pay raise to 4 percent this year in lieu of the approximate 8 percent required to match the growth in civilian sector wages. Beginning in fiscal year 1984, we support military pay raises which match civilian sector wage increases. We will continue to use enlistment and reenlistment bonuses to address shortages in specific skill categories.

Question. The Navy will require added manpower at sea as it builds up its fleet. One way to provide moe people at sea is to increase sea pay, thereby causing more persons to volunteer for sea duty. While sea pay costs would rise, the shore billets required to maintain a reasonable sea/shore rotation would decline. Have you examined this approach to meeting Navy manpower requirements while holding down costs? Have you any other ideas?

Answer. Navy does not create shore requirements and the associated shoe billets for the purpose of sea/shore rotation. Rather, shore billets are programmed to fulfill valid, mission-related requirements. The decision, however, to meet valid shore requirements with either civilian or military manpower is often influenced by sea/shore rotation needs.

Navy is presently addressing the attractiveness of sea pay. There are indicators that sea pay is having a positive effect both on the willingness of Navy people to remain at sea and upon retention. Sea pay offers the potential of reducing training costs for replacements and possible savings of PCS costs. However, the improved sea pay legislated by the 96th Congress has not been in effect long enough to determine long term impact.

Navy is conducting an analysis to determine how much sea pay would have to be offered to make sea duty sufficiently attractive that people would be willing to stay for longer periods of time. This analysis will include an evaluation of the marginal costs/benefits associated with varying levels of sea pay. Regardless of the outcome of this analysis, it should be noted that in order to maintain the prescribed level of fleet support, any reductions of military billets ashore will have to be offset with a concomitant increase in alternative manpower.

Question. The Congress has shown concern over all federal retirement programs. In the case of the military, people continue to question whether it makes sense to offer such strong incentives to leave the military after just 20 years of service but little incentive—at least from the retirement system—to remain after the first term of service. As you know, Mr. Secretary, numerous studies—including several by the Department of Defense—have recommended changes in the military retirement system. As the Congress grapples with problems of federal retirement, do you see the Department of Defense recommending constructive changes in the retirement system? When might we expect such proposals?

Answer. Recognizing the importance of the military retirement system, the President has directed the Department of Defense to initiate the Fifth Quadrennial Review of Military Compensation as required by section 1008 of title 37, United States Code. This study will focus on the retirement system and how it should complement our defense needs and force management. The recommendations resulting from the review will be submitted to the President and the Congress. Those recommendations that require statutory changes will be accompanied by draft legislation. We expect this effort to be reported during the latter part of next year.

MILITARY RETIRED PAY ACCRUAL

Question. One key to sensible change in the military retirement system would be a switch to an accrual form of accounting. This woulds cause the federal budget to reflect today's liabilities and would mean that any changes in military retirement would immediately show up in the budget. Does the Administration still support this change? If so, why hasn't legislation been submitted to make the change?

Answer. DoD proposed legislation to the 95th and 96th Congress to permit the department to budget and account for the cost of retired pay on an accrual basis. This proposed legislation was again submitted to the Congress on May 3, 1982. The House Armed Services Committee still has this proposal under active consideration.

The Department still firmly believes that accounting and budgeting for military retired pay on an accrual basis represents a more realistic and accurate treatment of the actual costs of supporting the Armed Forces, and, therefore, urges that the legislation receive expeditious and favorable consideration by Congress.

The impact of our proposal on the Defense Budget would be a reduction of about $3 billion in fiscal year 1983. This reflects the difference between removing payments to retirees (−$16.5 billion) from the Defense function and adding the accruing benefits of military personnel who have not yet retired (+$13.5 billion).

B-1B COSTS

Question. Mr. Secretary, we have received a letter from the Secretary of the Air Force, dated August 6, concerning the cost of the C-5B program. Secretary Orr stated: "in preparing our 1984 budget, we reworked figures for all our programs, including the C-5B. We found it necessary to add several items which had not been included in the future-year estimates transmitted with the President's fiscal year 1983 budget."

Mr. Secretary, has the Department also reworked the figures for the B-1B program?

Answer. In preparing the fiscal year 1984 budget, the Air Force has concluded a bottoms-up analysis which confirms the $20.5B (fiscal year 1981$) program cost estimate and supports the fiscal year 1984 budget estimate for the B-1B program?

Question. Have items been added to the B-1B program which were formerly not included in future-year estimates for the B-1B program.

Answer. No. No items have been added to the B-1B program which were formerly not included in the future-year estimates. Similarly, no items have been deleted.

Question. What is the current estimated cost of the B-1B in constant dollars, and in then-year dollars?

Answer. The current estimated cost of the B-1B program in constant fiscal year 1981$ is $20.5B, which is $29.2B in then-year dollars.

DEPOT MAINTENANCE

Question. On June 10 the Committee cancelled a hearing on DOD's $10.4 billion request for depot maintenance funding. This hearing was cancelled because your own staff acknowledged in internal memos that, contrary to repeated DOD testimony, the budget before the Congress would not eliminate the depot maintenance backlog and DOD had therefore promised the Congress an unrealistic set of mission capable rates over the next five years.

Does the fiscal year 1983 budget full fund the depot maintenance requirement so that there will be no backlog in fiscal year 1983?

Answer. At the time the fiscal year 1983 budget was formulated we attempted to fully fund depot maintenance requirements based on an analysis of requirements and data available during the process of the DOD budget review. We thought at that time the nearly $2 billion increase in fiscal year 1983 over the planned fiscal year 1982 level would allow us to eliminate the depot maintenance backlog. However, as I indicated to you in my July 9, 1982, memorandum, later information concerning emerging requirements revealed potential shortfalls in depot maintenance funding. It now appears, based on execution to date of the fiscal year 1982 program, that complete elimination of the backlog by the end of fiscal year 1983 is doubtful at the funding levels reflected in the budget.

Question. The Navy POM submission to you in May showed a fiscal year 1983 backlog of nearly $300 million at the same time that Navy and OSD witnesses were going to testify to this Committee that there was no backlog. Why is there such a large discrepancy between what OSD and the Services are telling the Congress and what they are saying to each other?

Answer. We want to stress that the prepared statements of the OSD and Navy witnesses indicated that our objective was to eliminate the backlog based on validated requirements known at the time the budget was prepared. The statements also indicated that additional requirements appeared to be emerging, and the nature of those new requirements was described. We will have to conduct a complete review and analysis of current requirements and funding data for fiscal year 1982 and fiscal year 1983 as part of our review of the fiscal year 1984 budget. We expect, at that time, to have sufficient validated data to determine the extent of any backlog and evaluate the situation in relation to approved fiscal year 1983 funding levels.

PREPARATION OF DOD WITNESSES

Question. This Committee is one of the few that provides a comprehensive set of proposed questions to prospective DOD witnesses prior to their appearance here. We do this because we believe it makes for a better hearing. In theory it lets the witness focus his thoughts and ensures that any necessary supporting witnesses are also available to attend the hearing. In practice, witnesses frequently have not answered a question during a hearing with the excuse that it was not provided ahead of time. I should emphasize that we are not talking about highly technical points, but usually fairly straightforward questions. In one instance a senior OSD official kept using that excuse even after one of his own staff and military liaison officer admitted in testimony that we had provided the questions ahead of time.

Is it your position that your staff need not be prepared to answer this Committee's questions unless they are provided in advance in writing?

Answer. We certainly appreciate the long standing policy of this Committee to provide us questions in advance of the hearing, and hope that we can continue this procedure. We likewise believe that the arrangement is mutually beneficial in preparing for and the conduct of hearings as well as in expediting transcripts. After having said this, we must add that since all Committees do not afford us this opportunity, we do not feel that this is a prerequisite for witnesses and that they should be able to respond to your questions without this "leg-up". On the other hand, occasionally there are questions that involve considerable expertise and detailed input which takes time to develop and coordinate and under such circumstances believe it much more beneficial to simply provide the information for the record.

[CLERK'S NOTE.—End of questions submitted by Mr. Addabbo.]

Mr. DICKS. I have some questions I would like answered for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

C-5 COSTS AND PRIORITY IN THE DEFENSE BUDGET

Question. Mr. Secretary, recent reports have confirmed an increase in total program costs for the C-5 of $2.1 billion. Mr. Chairman, I ask unanimous consent to include in the record at this point a chart breaking down this cost increase and a copy of a letter from Secretary of the Air Force Vernon Orr to Chairman Whitten explaining the increase.

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DEPARTMENT OF THE AIR FORCE
WASHINGTON D C 20330

OFFICE OF THE SECRETARY

6 AUG 1982

Honorable Jamie L. Whitten
Chairman, Committee on Appropriations
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

As you prepare to address the C-5B program in the FY 1983 Defense Authorization Conference, it is critical to understand the facts related to an alleged $2B increase in the cost. The source of the reported cost increase is an internal Air Force/Office of the Secretary of Defense programming document used in the normal process of developing the DoD FY 84 budget.

The Air Force estimate of $10.9B then-year dollars contained in the programming document is not comparable to the $8.8B in the FY83 President's Budget currently before the conference. The programming document includes $.9B in replenishment spares, which, by definition, are not part of the program acquisition cost shown in the President's budget. A comparable figure to the $8.8B would be $10.0B.

The resultant $1.2B cost difference reflects two areas of change. First, there is approximately $.5B for inflation related to the schedule adjustment because contract award will be later than originally forecast, due to the lack of FY 82 funding. Second, in preparing our 1984 budget, we reworked figures for all our programs, including the C-5B. We found it necessary to add several items which had not been included in the future-year estimates transmitted with the President's FY 1983 budget. These items include certain elements of ground support equipment, training equipment, technical data and management reserve. These government add-ons will cost approximately $350M (FY 80 dollars). This amount, adjusted for inflation over the eight years following 1980 becomes approximately $700M in then-year terms. The $350M in government add-on items are not a part of the Lockheed fixed price proposal.

READY THEN READY NOW

In fact, the Lockheed firm fixed price proposal for 50 C-5B airlift aircraft has not changed one penny. Nor are the relative cost comparisons between the C-5 and other aircraft affected by these developments, because we would probably make somewhat comparable adjustments to the other aircraft programs at this stage as well. Thus, we still conclude that the C-5B is the most cost-effective choice for our outsize airlift needs. We urge your continued support of this program, which is so vital to national security.

Sincerely,

Verne Orr

According to Secretary Orr's letter, approximately $900 million of the $2.1 billion increase is due to the inclusion or replenishment spares in the POM estimate. Yet these replenishment spare figures were included in the May 12 POM. If they truly should not be included in the program cost line why wasn't the situation corrected in May?

Answer. Replenishment spares are not included in estimates of program acquisition cost since they are recurring operating expenses. They are, however, identified by weapons system during the POM process. The $900 million for replenishment spares for C–5B has always been included in the Air Force budget and that figure has not changed. Replenishment spares will not be included in the C–5 program acquisition cost estimates.

Question. An additional $700 million of the cost growth is due to the necessity to "add several items which had not been included in the future year estimates transmitted with the President's fiscal year 1983 budget. These items include certain elements of ground support equipment, technical data and management reserve." One Air Force official describing this error simply said "we blew it". Mr. Secretary, do you consider a mistake of nearly ¾ of a billion dollars to be an insignificant error?

Answer. A $700 million increase in a system cost estimate is by no means insignificant. However, the C–5B increase in constant year fiscal 1980 dollars as we moved from a preliminary estimate using cost estimating factors to a refined estimate using line item by line item analyses represents a 7 percent growth. This amount of growth as one refines cost estimates is not extraordinary.

Question. How was such a glaring mistake made when the costs of this program were the subject of such intense debate?

Answer. The original estimate was made using cost estimating factors. The current estimate reflects a line-by-line item analysis. Different cost analysis techniques are often applied at different stages of a program's life cycle. The fact that different total estimates result from these different techniques does not indicate that a mistake occurred.

Question. When was the error first discovered, was it apparent during formulation of the May 12 POM?

Answer. When it became clear that the planned Reprogramming and the fiscal year 1982 Supplemental request would not be approved, it became obvious that the anticipated April, 1982 contract award would not occur. The Air Force was in the process of revising the program plan for a 1 November 1982 contract award as well as refining the initial program cost estimates for those program costs other than the Lockheed fixed price protion when the May 12 POM was formulated. Because of the intense debate associated with this program any cost estimate change would naturally be given the most intense scrutiny within the Department of Defense. Cost estimates are not accepted from the program manager without thorough deliberation. We are satisfied that the latest program cost estimate accurately reflects fact-of-life changes due to delays in planned contract award, additional out year inflation and a refined estimate of government support costs. The revised program plan, which included the refined cost estimates, was submitted to OSD on 2 August 1982.

Question. Why didn't the Department advise the Congress of the error instead of having it come to light only after reports in the press?

Answer. Unfortunately, the revised estimate reached the press at essentially the same time that it was completed by the Air Force and transmitted to OSD. We regret not having had the opportunity to inform the Congress of the changes before press reports appeared.

Question. This episode can't help but give me the feeling that you are being less than candid about true costs of this program. I wonder what further cost increases there are that you haven't revealed yet. What assurances can you provide that should there be no further cost increases on the C-5?

Answer. We are aware of no further estimates of cost growth at this time. As the C-5B program evolves, we will continue to examine its cost estimates with the same intensity and rigor we employ with all major weapons systems acquisitions.

Question. Are you considering giving this program the same type of day to day top level management attention being given to the B-1? If not, why not?

Answer. All of our major programs are subject to continuous intense scrutiny by senior managers within the Department of Defense. Our responsibility to the American taxpayer demands no less. Both the C-5B and the B-1B will receive the appropriate senior management attention that befits their status as major defense hardware investments of the United States.

Question. I have been advised that the Cost Analysis Improvement Group (CAIG) in your office conducted an independent cost analysis of the C-5 program. I also understand that their estimate was about $2 billion over the official estimate included in the budget.

Why wasn't the Congress advised of the existence of the CAIG estimate?

Answer. The latest C-5B 50 aircraft program was an additional buy of aircraft currently in the Air Force inventor and did not go through the DSARC process. Therefore, a formal CAIG independent cost analyses was not performed. Various reviews and analysis were conducted jointly by the Air Force and the OSD(PA&E) Cost Analysis Division relating to the C-5B, C-17, and alternative Boeing 747 programs. None of these analyses, however, reflected an increase of $2 billion in the cost of the C-5B. The $2.1 billion increase explained in Secretary Orr's letter of August 6, 1982, does not constitute a CAIG estimate over and above the Air Force official estimate included in the program. Secretary Orr's letter addressed to the Chairman of the Subcommittee on Defense, House Committee on Appropriations, pointed out that the major causes for the $2.1 billion increase were the stretch caused by the unavailability of fiscal year 1982 funds with which to go on contract early this year, inflation, replenishment spares not considered part of weapon system acquisition cost, and some add-on requirements recently identified.

Question. I have asked repeatedly for a copy of the CAIG analysis, but I have yet to receive it. Will you provide it to this Committee of its review?

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BURKE TO NUNN LETTER - 22 APRIL 1982

FY	82	83	84	85	86	87	88	89	TOTAL
C-5B	270	860	2171.5	2308.7	2506.6	725			8842
DELIVERIES				2	10	12	20	6	50

POM 84 - 12 MAY 1982

FY	83	84	85	86	87	88	89	
A/C PROC.	800.0	1920.8	1930.6	2418.2	714.1	0	0	7784
QTY	2	10	12	20	6	0	0	
DELIVERIES	0	0	4	11	12	23	0	50
SPARES	60.0	396.1	595.9	219.7	153.5	128.6	0	1555
TOTAL	860.0	2316.9	2526.5	2637.9	867.9	128.6	0	9339

REVISED OFFSETS - 2 AUGUST 1982

FY	83	84	85	86	87	88	89	
A/C PROC.	800.0	1527.4	2037.1	2561.6	2293.9	0	0	9218
QTY	1	4	10	16	19	0	0	50
DELIVERIES	0	0	0	7	12	21	10	50
SPARES	47.5	283.8	567.9	393.5	240.7	128.6		1664
TOTAL	847.5	1811.2	2605.0	2955.1	2534.6	128.6		10882
DELTA FROM POM 84	-12.5	-505.7	+78.5	+317.2	+1667.0	0	0	+1544

Answer. No formal CAIG independent cost analysis was performed on the C–5B program.

Question. The Congress had a very difficult time obtaining the CAIG estimates for the B–1. I frankly think the resistance of the Department to providing these documents hurt your credibility. You would have been much better served if you had originally had Dr. DeLauer come forward with an analysis of the CAIG work and explain why you disagreed with its conclusion, rather than having us force you to do this. Shouldn't we try to be candid about cost estimate differences rather than forcing the Congress to wring data that questions the official position out of the Department?

Answer. When a CAIG analysis is performed, this analysis represents an internal working document that we believe should not be released outside of this Department. We consider this policy to be essential if we are to maintain a truly independent cost analysis capability during the Secretary's review of major program decisions. To make these documents available to agencies external to the Department of Defense would subject the analysts to pressures that could destroy their independence and jeopardize the value of their work to the Secretary of Defense.

To protect the integrity of the internal decision-making process, while at the same time respecting the requests of the Congress, we and the Air Force have provided briefings to the GAO on the substance of our findings. And we are always prepared to answer specific questions from the GAO or the Congress at any time.

Question. The C–5 was justified as a near term option. Under the revised schedule the first plane will not be delivered until 1986, with deliveries ending in 1989. And this schedule optimistically assumes a November contract award and no further delays during the program. Given these facts, how can the Department justify the C–5 as a near term option? If further delays become apparent, will consideration be given to terminating the C–5 buy at less than 50 and proceeding with all due speed on the C–17?

Answer. Secretary Weinberger's letter of June 4, 1982 to Chairman Addabbo stated that the C–5B program is the quickest way to gain additiohnal outsized airlift capability, and that plans for the C–17 program could make operational deliveries possible in the early 1990's. The delay of Congressional funding approval for the C–5B until completion of action on the fiscal year 1983 Defense budget will delay first deliveries of the C–5B until 1986, but the C–5B would still remain the quickest outsize airlift near term option. We foresee no possibility of consideration being given to terminating the C–5B buy at less than 50 aircraft and proceeding with C–17 development and production as the only outsize airlift alternative.

Question: While the President apparently does not feel bound by the targets for fiscal years 1984 and 1985 included in the First Concurrent Budget Resolution for defense, I am convinced that those figures represent the upper bound of what Congress will approve as we strive to reduce the deficit.

I am trying to get a sense of the priority you place on major new procurement programs like the C–5. In your letter to the Congress during consideration of the Budget Resolution you suggested that if the Jones Budget were adopted, we might see a 25 precent reduction in ship overhauls and repairs. Such a move would be devastating to readiness and make a farce of the commitment to improve our naval capabilities in the real world. Does this indicate that your guideline will be hardware first and damn readiness? At what point will hardware like the C-5 have to increase in cost before you consider terminating them rather than make further cuts into readiness accounts?

Answer: The President has directed that we protect the readiness of our military forces and our ability to sustain them in combat. He has also directed that we avoid disruption in the critical elements of our modernization effort. We are committed to both goals. We do not intend to repeat the mistake of the late 1970's, when the nation maintained a larger force structure than it was able or willing to afford. We will not hide the lack of funds from the American people by such devices as cutting the training hours of our pilots and compelling them to enter combat unprepared, or by skimping on spare parts or ammunition in such a way that, were our forces compelled to go to war, they would only be able to sustain combat for a few days. Growth in force structure will be curtailed, if necessary, or deferred to accomplish readiness and sustainability initiative and to maintain minimum essential modernization.

The C-5 aircraft is critical to readiness and sustainability and is not a case of "hardware first." The C-5 aircraft is urgently needed to help reduce a critical shortfall in our ability to rapidly deploy outsize cargo.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

Mr. ADDABBO. At this time the Chair will close the hearing while the members go up to vote. That will give us time to clear the room for those who are not cleared, and we will commence at 11:30 with the MX hearing.

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TUESDAY, AUGUST 17, 1982.

MX DENSE PACK BASING MODE

WITNESSES

HON. CASPAR WEINBERGER, SECRETARY OF DEFENSE

RICHARD D. DE LAUER, UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

JACK R. BORSTING, ASSISTANT SECRETARY OF DEFENSE (COMPTROLLER)

BRIG. GEN. J. P. McCARTHY, SPECIAL ASSISTANT FOR MX MATTERS, U.S. AIR FORCE

LT. COL. JOHN DOUGLASS, USAF, MILITARY ASSISTANT TO THE UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

INTRODUCTION

Mr. ADDABBO. The problem of where to put the MX missile remains unsolved. The most recent proposal put forward for a basing mode is referred to as Dense Pack, or Closely Spaced Basing. On May 17, 1982, the President stated that this mode "appears to be the most promising route to pursue". A DOD recommendation is to be provided to the President by November 1, and he is to advise the Congress of his decision by December 1.

The Dense Pack concept was developed after the fiscal year 1983 budget request was submitted to the Congress. Therefore, no formal budget justification material exists, and to date only a seven page white paper on MX, three pages of which address basing, has been issued by the Department. We hope today to gain an understanding of the concepts on which Dense Pack is based, where and how large it will be, how it will operate when under attack, and the questions which remain unanswered at this time.

Before we proceed with the details of Dense Pack, allow me to address MX in a broader context. The President's guidance that Dense Pack "appears to be the most promising to pursue" is hardly a ringing endorsement. There are many in this nation who believe that Dense Pack is just one more scheme, in a string of several dozen, which have come to a bad end. Indeed, Dense Pack has about it a strong sense of being a last straw attempt to salvage a bad idea. It seems to me that by now we should have discerned a pattern in all this. The pattern is that it is simply not possible to defend our land based ICBMs, which constitute 25 percent of the warheads in our strategic nuclear force, against Soviet land based ICBM's, which constitute 75 percent of their force. Every scheme proposed has proved technically unworkable, or politically unpalatable, or outrageously expensive. Some of them have all three of these faults.

Why, then do we continue? Isn't it time to turn our attentions and energies to more productive pursuits? I submit that the most sensible course is to leave Minuteman in place as a continuing threat to any potential adversary. If necessary, we can improve its accuracy. We can improve its warhead. We can improve its command and control. But let us once and for all call a halt to spending untold billions of dollars on the pipe dream of defending land-based ICBMs.

Mr. Secretary, please proceed.

STATEMENT OF SECRETARY WEINBERGER

Secretary Weinberger. Mr. Chairman, I have a very brief statement on the MX, and then Dr. DeLauer and General McCarthy have presentations that can be made. I think my statement has been handed out to the committee, but basically we strongly urge that we not neglect one of the critical elements of our program, which is the modernization for our strategic forces. We believe our policy of maintaining a credible deterrent has worked for some 37 years, and since we know that nuclear war is unwinnable, we do think the only way we can make sure that no one else tests that theory is to maintain a credible deterrent. That requires modernization in response to the changes that the Soviets are making in their forces.

They have developed and deployed numerous, large, highly accurate ICBMs with MIRVs with a capability of destroying most of our ICBM force in a first strike, while expending a relatively small proportion of their forces in the process. They have also shown indications that they believe nuclear war is winnable. They have hardened their ICBM silos, critical comand and control facilities, thus making them far less vulnerable to our Minuteman force. They have developed a refire capability for their ICBMs and expended large sums on civil defense. Their doctrine envisions a first strike against our strategic forces while limiting damage to theirs during time of war. These are very unsettling developments.

The MX missile was designed to restore that balance. It provides the prompt hard target kill capability necessary to retaliate effectively against the full range of vital Soviet strategic assets. The MX must possess the necessary basing characteristics to ensure its survivability. By strengthening the ICBM force and making it more survivable, the MX will erode Soviet confidence in their ability to conduct offensive strategic operations successfully.

Failure to deploy the MX will result not only in weakening our deterrent, but would permit the Soviets to focus their efforts on defeating the air and sea legs of the Triad. To allow the U.S. ICBM force to remain vulnerable would permit the Soviet Union to divert immense resources for submarine-launched missiles, anti-submarine warfare and improved air defense.

On the other hand, if we deploy the MX in a survivable basing mode, it will show our allies that we can make the hard decisions necessary to modernize our nuclear capability and it will also make use of the sizeable investment of about $4.5 billion that has gone into the MX program.

Most important, our resolve to deploy it will enable us to enter into the strategic arms reduction talks from a credible position that gives us a counter to the powerful leverage of the Soviet Union's ongoing programs. The MX gives the necessary and essential incentive for meaningful and effective negotiations. It is important to remember that early in the Carter Administration, Secretary Vance went to Moscow with a proposal to reduce nuclear weapons and they refused even to discuss it, but this year, when President Reagan offered far more sweeping arms reduction proposals, the Soviets agreed to negotiate. This change in their position is due to the fact that they now have incentives to negotiate. Without the President's strategic modernization program, obtaining deep and significant arms reductions in Geneva would be extremely unlikely.

The missile development program is on schedule. The initial flight test is planned in January and we are working hard to define by December 1 a survivable basing mode that could be deployed starting in 1986. Congress' decision not to support interim basing led us to focus on the permanent basing concepts most likely to be achievable by 1986. Last year's Townes' Panel recommended that we study the effects of fratricide, and we are studying the timely deployment of the MX to take advantage of that. In addition, we are also looking at deep underground basing, ballistic missile defense and combinations of all three. I will soon be getting recommendations on these. There is much to be done, but the President will report to the Congress by the first of December our recommendations and my Department fully supports that commitment.

Dr. DeLauer will elaborate briefly on the status of the MX basing studies, and General McCarthy is prepared to give you a slide briefing with the documents before you. We will be glad to try to answer any questions.

Mr. Chairman, I paraphrased my formal statement. I would like to have the full statement put in the record if I could.

Mr. ADDABBO. Without objection, it is so ordered.

[CLERK'S NOTE.—The statement of Mr. Weinberger is printed on page 655.]

Mr. ADDABBO. Dr. DeLauer?

STATEMENT OF UNDER SECRETARY DELAUER

Dr. DELAUER. Mr. Chairman, in the interests of time I would like to give you the status of what we asked the Defense Science Board Task Force to consider in reviewing the closely spaced basing concept.

We wanted to be sure of the technical accuracy and competence level of the super-hard silo concept, since this is a key to the closely spaced basing deployment concept. Their work also looked at intelligence inputs, fratricide calculations and the ability of the MX to fly out. We asked them to verify the accuracy of the research we had done in the past and the analyses we are now doing. We also asked them to review the command control and communication approach, because it is the very key to any kind of a survivable basing scheme. Further, we asked them to look at the survivability of a basing array at the time we deploy it. It could be different later on if the Soviets develop a reaction against it, so we asked them to make some estimate of system survivability based on threats from the Soviet Union: and the time scales of these threats.

We wanted to see a time history of the survivability of any basing scheme, and the feasibility and utility of adding improvements to increase the survivability. These could include ballistic missile defense, and deception, so we have asked this group to do that as well. They are in final deliberations. They have a task force working on it and by the end of next week I think they will be in a position to make a recommendation, at least a report to the Secretary, and give him their views of what the problems are, how they can be fixed if they can be fixed, and what it might cost.

With that, I will step out of the way and have General McCarthy give you a quick update of the status of the MX program along with these basing concepts that we are now talking about.

RECOMMENDATIONS MAY CHANGE

Mr. Edwards. If you will yield just briefly, I understand what we will be seeing will not deal with the report that is in its final stages.

Dr. DeLauer. No sir.

Mr. Edwards. The report could perhaps change what we will hear today, and the final recommendations I gather then could change to some extent what we hear today.

Secretary Weinberger. That is exactly right.

Dr. DeLauer. Yes, sir.

Secretary Weinberger. We are trying our best to meet that deadline. It is a tough deadline to meet. The President wants us to meet it. He is committed to it and we will make it, but we are not yet finished.

PRESENTATION BY GENERAL M'CARTHY

General McCarthy. Thank you, Mr. Chairman. If you will follow with me in the slide briefing here, the introduction has already been given by the Secretary.

[Slide.]

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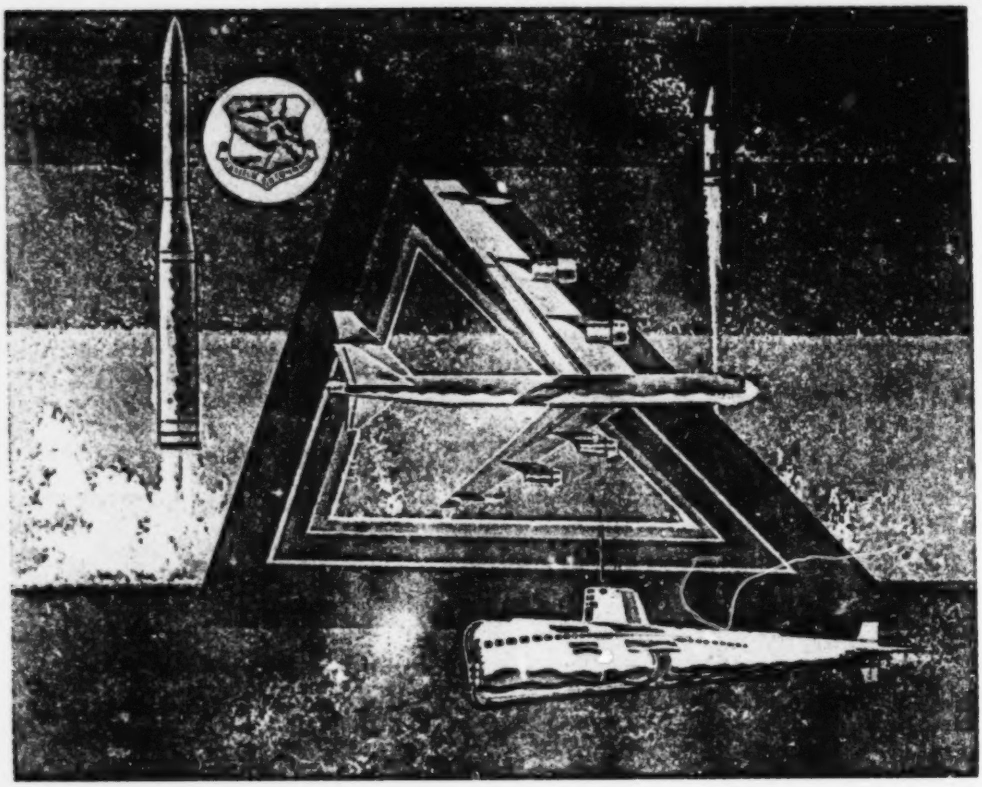


The second slide shows the Triad which the Committee is very aware of, the important benefits that the three basic legs of our strategic forces give us, and the need to improve the ICBM leg of the Triad.

[Slide.]

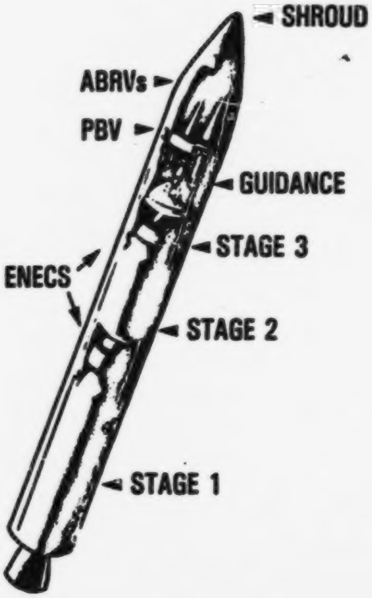
M–X MISSILE SYSTEM

• REQUIREMENT		• RESOLUTION
MISSILE EFFECTIVENESS	⇨	NEW MISSILE— M–X
SURVIVABLE TO ATTACK	⇨	NEW TYPE OF BASING

On the next slide we point out that we have two requirements. One is for improved missile effectiveness, larger throw weight, and increased accuracy is most important to satisfy our concerns over Soviet improvements in hardness which make their targets less vulnerable to our existing ICBMs, but in addition to improved effectiveness is the desirability to have survivability to attack, which a new type basing mode we are seeking will give us.

[Slide.]

M–X MISSILE



- WEIGHT: 192,000 LB
  - MORE THAN TWICE MM
- THROWWEIGHT: 7,900 LB
  - LARGEST UNDER SALT (LIGHT ICBM)
- CEP: TWICE THE ACCURACY OF MINUTEMAN
- RANGE: 10 ABRVs TO MM RANGE
- FIRST FLIGHT: EARLY 1983

In terms of the missile itself, the slide shows a diagram of the missile. It has three solid propellant stages plus a liquid propellant post boost vehicle, and advanced inertial reference sphere guidance system that provides very great accuracy, and the warheads are the advanced ballistic reentry vehicle.

Some of the characteristics of the missile are shown on the right hand side. The important thing is that the missile is under development, and as the Secretary said, we expect the first flight test to be in January 1983.

MISSILE DESIGN UNAFFECTED BY BASING MODE

Mr. Addabbo. General, does the basing mode in any way affect the final design of the missile?

General McCarthy. No sir. We have examined the missile for all of the possible basing modes, and believe that it is compatible with any that we envision would be deployed in the near term.

If you went to longer terms, there may be some interconnectivity with the missile that might be desirable to change, but right now we don't even see that as a requirement.

Mr. Edwards. What do you call longer term?

General **McCarthy**. Well, if you went to perhaps deep basing, which looks like a longer term solution.

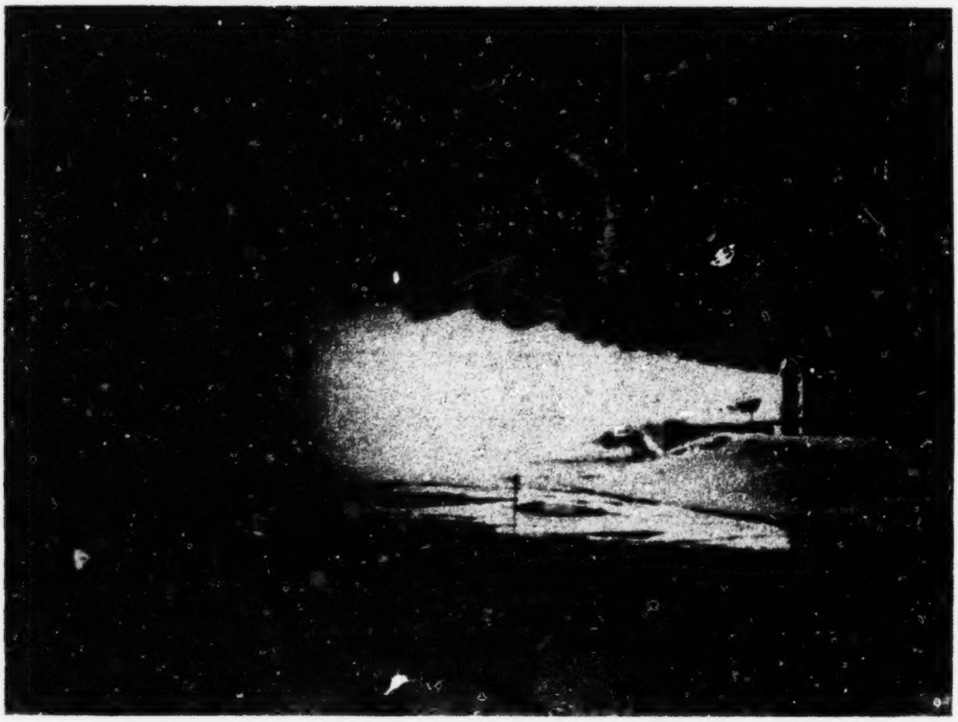
Mr. **Edwards**. In the year 2000 and beyond?

General **McCarthy**. Well, that would be available earlier, but in the concepts that we envision, the basic missile has the capability to be compatible with any of those basing modes under consideration.

Mr. **Edwards**. So you don't have a definition of long term?

General **McCarthy**. No sir I don't. The reason I used the expression long term is for those things that we haven't yet been able to envision.

[Slide.]



TEST FIRINGS

We have put in here a slide that shows one of the rocket motors test firing. This happens to be the second stage. All of the components of the MX missile have been test fired or tested on rocket sleds or are in operation as individual components. We have put all of the components of the missile together in a test at one of the companies to check the vibration that we would get, and so we know that it all fits together. The elements are being delivered to Vandenberg Air Force Base this summer, where the first full up missile will be assembled and checked out, and all of the facilities for the MX then will be tested at that time.

[Slide.]

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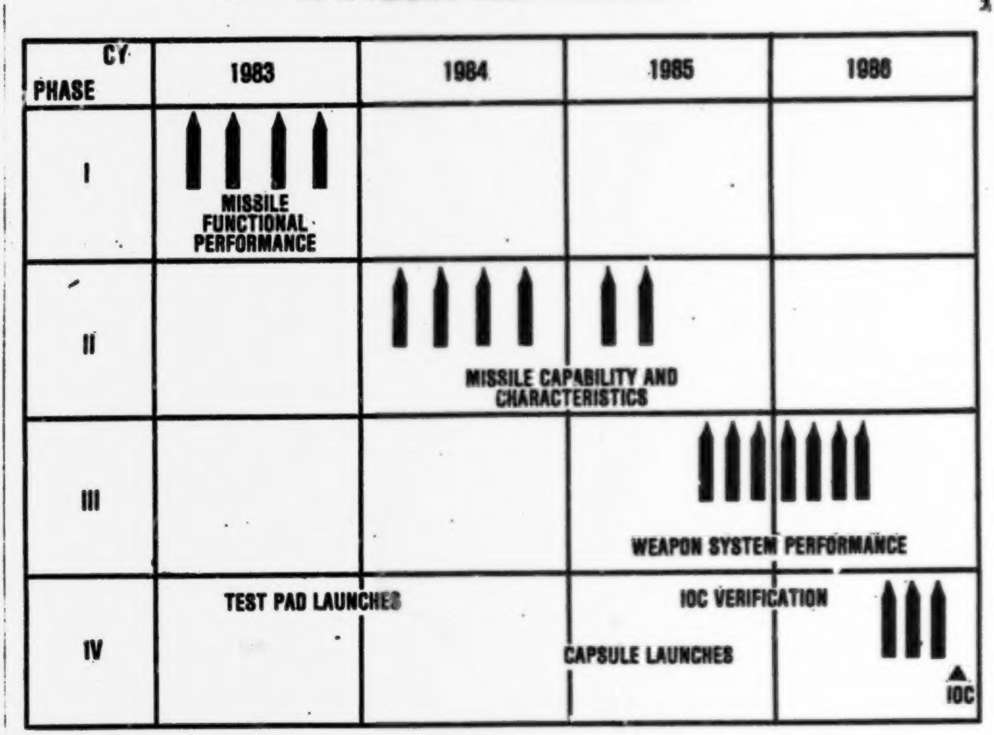
M-X FLIGHT TEST PROGRAM



The flight test profile is shown on your next slide. That shows the 20 flights that we plan under the research and development phase over the four years of test flights. This will permit us to have confidence in the missile system before we place the missile on alert.

[Slide.]

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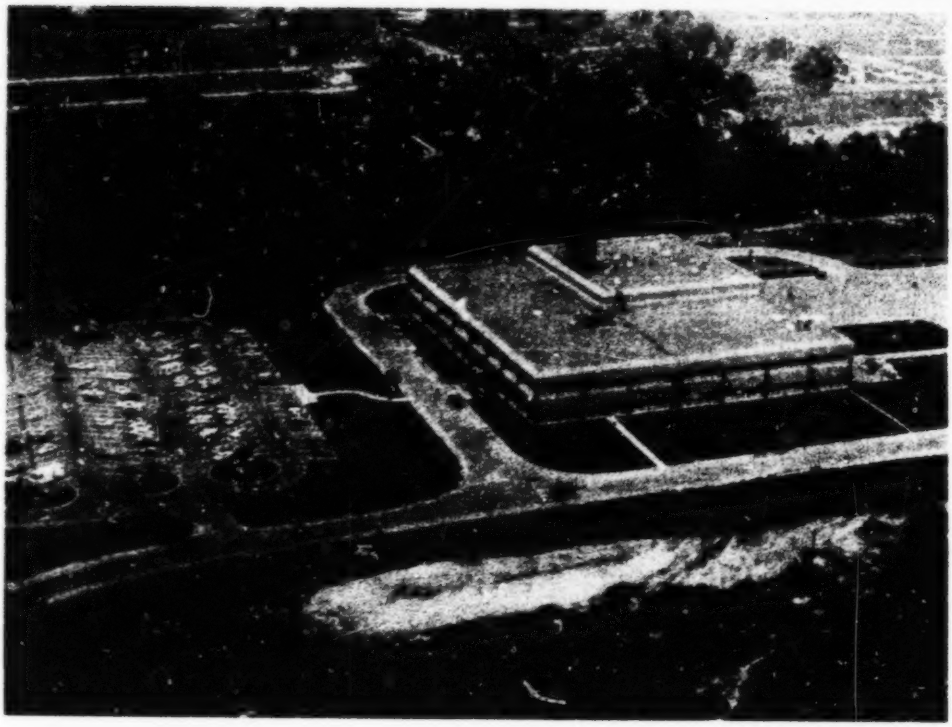
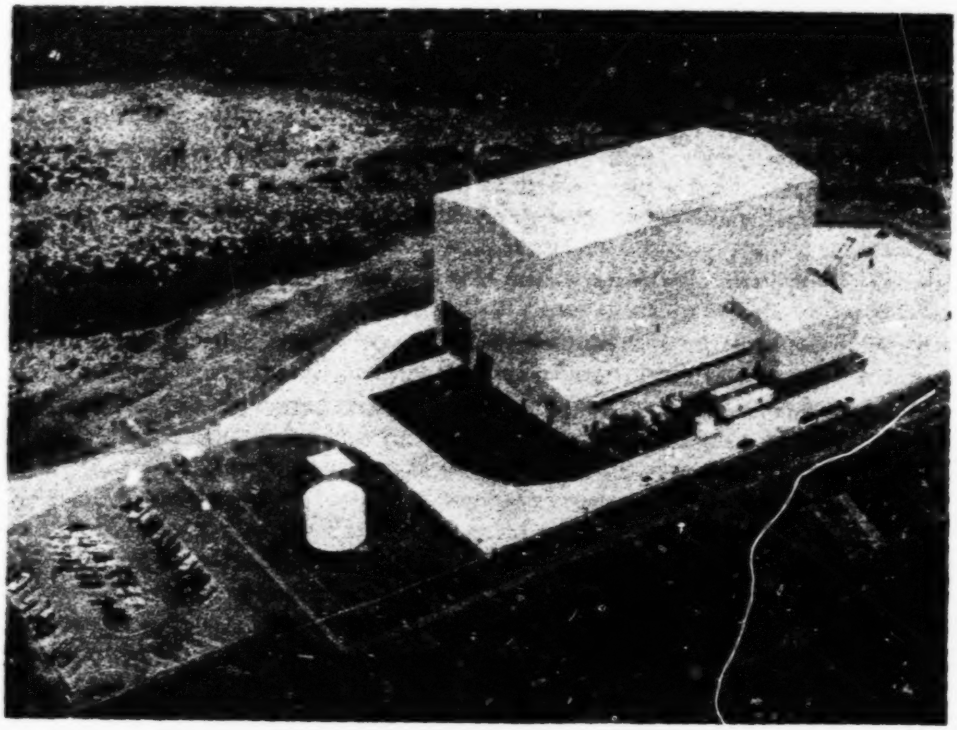


The next slide is an actual photograph of the completed test facility at Vandenberg, where all aspects of the missile launch and flight will be controlled.

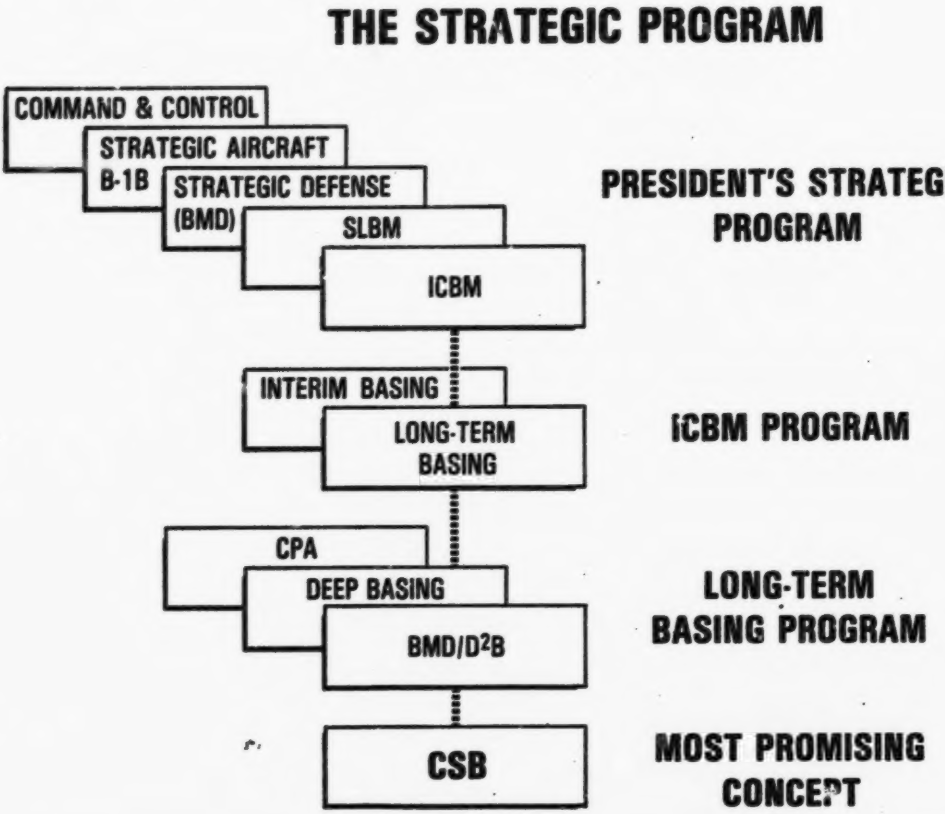
[Slide.]



That is completed, as well as the missile assembly building, which is the next major construction. All of the construction to support the Vandenberg test flights has been completed on time and under cost, and we are prepared then to proceed with that program.

The purpose of that portion of the briefing was to tell you that MX is a missile that is in being, ready to go, and now I would like to move into the basing of it.

[Slide.]



THE STRATEGIC PROGRAM

COMMAND & CONTROL

STRATEGIC AIRCRAFT B-1B

STRATEGIC DEFENSE (BMD)

SLBM

ICBM

PRESIDENT'S STRATEGIC PROGRAM

INTERIM BASING

LONG-TERM BASING

ICBM PROGRAM

CPA

DEEP BASING

BMD/D²B

LONG-TERM BASING PROGRAM

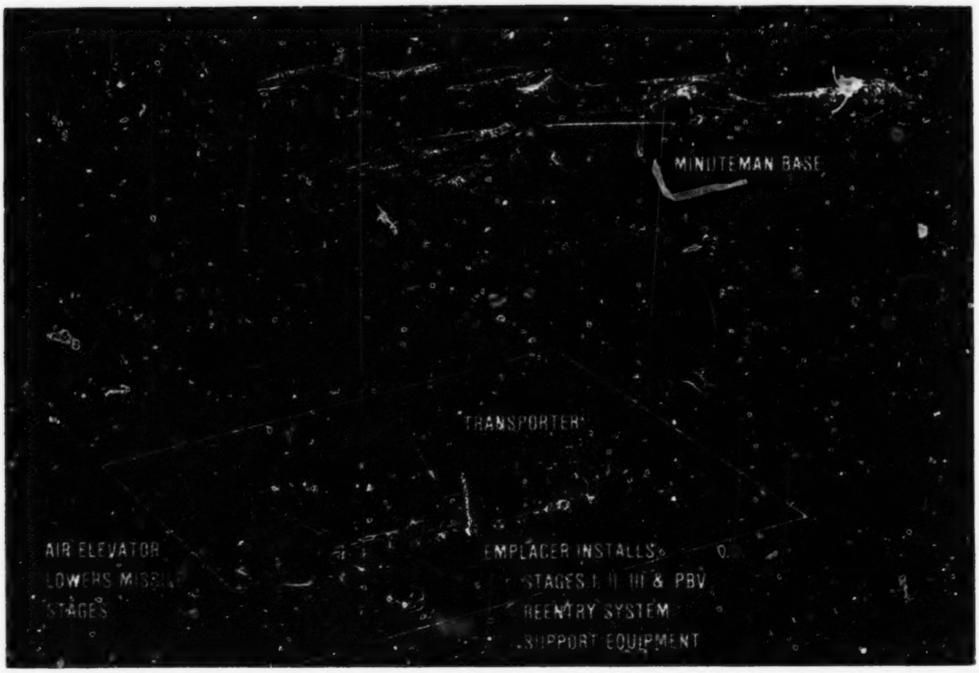
CSB

MOST PROMISING CONCEPT

A reminder on the slide that the ICBM portion was announced on October 2nd as part of the five elements of the President's strategic program, and it envisioned that we would place MX in silos while we did research and development on a long-term basing mode to provide survivability for MX. we looked at three elements of long term basing that were being considered, and from an Air Force standpoint closely spaced basing emerged as the most promising concept, and we have concentrated our efforts in that area.

[Slide.]

[redacted] 739


MINUTEMAN BASE
TRANSPORTER
AIR ELEVATOR
LOWERS MISSILE
STAGES
EMPLACER INSTALLS
STAGES I, II, III & PBV
REENTRY SYSTEM
SUPPORT EQUIPMENT

The next slide shows silo basing. We have completed all the designs necessary to put MX in Minuteman silos. The concept system design review, has been completed, and the package put on the shelf, if you will, in the event that there is a decision some time in the future to go for silo basing. It envisions using an existing Minuteman base, and transporting the various elements of the MX missile over the existing road structure to the existing silos. Then using an emplacer, the various elements of the missile are assembled in place, and an air elevator lowers them into the silo. The final stages are then put together and the missile put back on alert, the lid to the silo is closed, and from the outward appearance you would not know that an MX missile was inside the silo.

[Slide.]

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That work is then completed, and the next slide shows you another alternative, which is deep basing. Deep basing is a concept that offers an enduring survivability for the MX.

We are also considering it for some of the other requirements for survivability that we have, such as command and control, reconstitutiable C3 and reconstitutable reconnaissance, so we are looking at it in addition to a basing mode for MX as satisfying some of our other military requirements.

We are in the process of narrowing down to a smaller number of deep basing concepts that will be presented to the Secretary of Defense's staff later this month. We intend to narrow to one or two particular basing modes within the deep basing category. We plan a series of tests to ensure that we can resolve some of the technical issues such as egress through rubble that follows a nuclear attack, and prove the operational feasibility of some of the command and control elements of the system, and some of the life support systems. We have awarded contracts that will permit us to resolve those technical issues by July 1983.

[Slide.]

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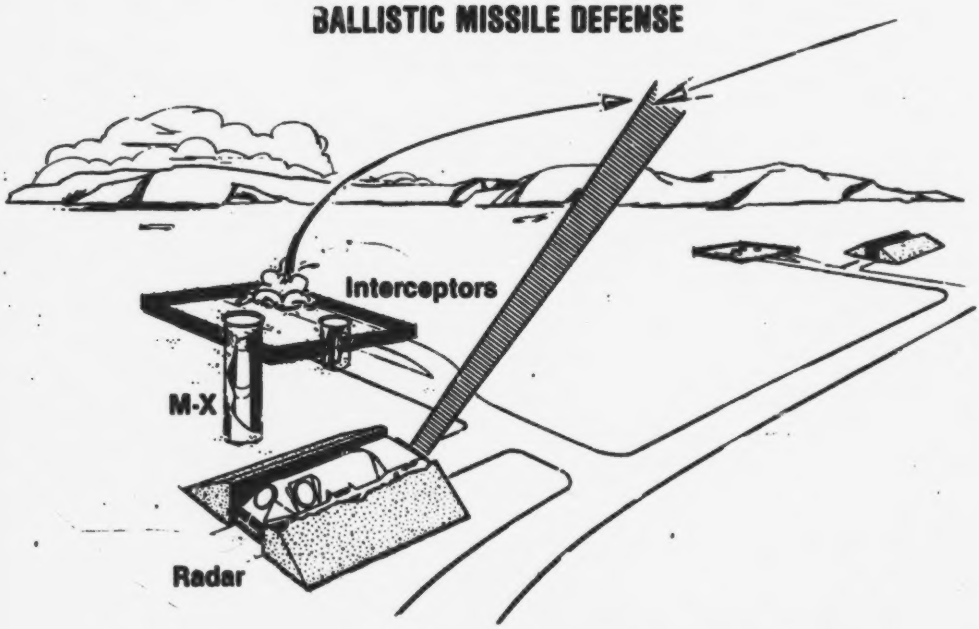
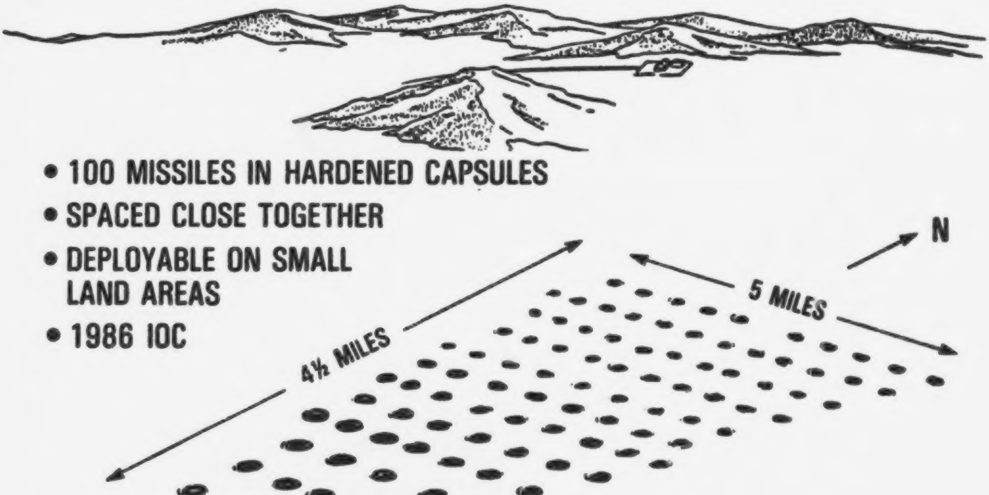
BALLISTIC MISSILE DEFENSE



Ballistic missile defense is the next slide, and responsibility for that program is with the Department of the Army. We are working very closely with the Army to understand the effects of ballistic missile defense over a variety of MX basing modes, with particular emphasis on closely spaced basing.

[Slide.]

CLOSELY SPACED BASING DESCRIPTION



- 100 MISSILES IN HARDENED CAPSULES
- SPACED CLOSE TOGETHER
- DEPLOYABLE ON SMALL LAND AREAS
- 1986 IOC

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The next slide gives you a description of closely spaced basing. This array, which is notional, shows 100 MX missiles in hardened capsules that are about 1800 to 2000 feet apart. This triangle or trapezoid then has the kinds of dimensions shown on the chart and enables us to put about 100 missiles in from 10 to 15 square miles of area.

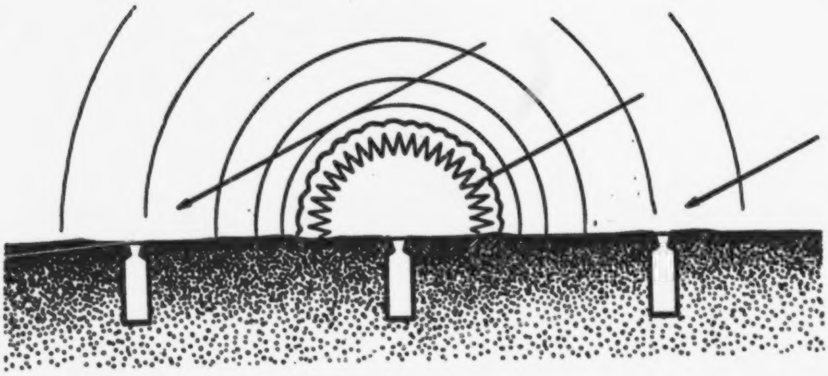
This enables us to deploy it with relatively minimum impact, except to the Soviet attacker who is contemplating an attack, and we believe that because of the work that we have previously done in related areas on this that we can meet a 1986 IOC.

FRATRICIDE CONCEPT

[Slide.]

BASIC CONCEPT

- SUPERHARDENING PERMITS CLOSE SPACING
- CLOSE SPACING CAUSES FRATRICIDE
- FRATRICIDE AND OTHER ACCUMULATED EFFECTS LIMIT SIZE AND PACE OF ATTACK

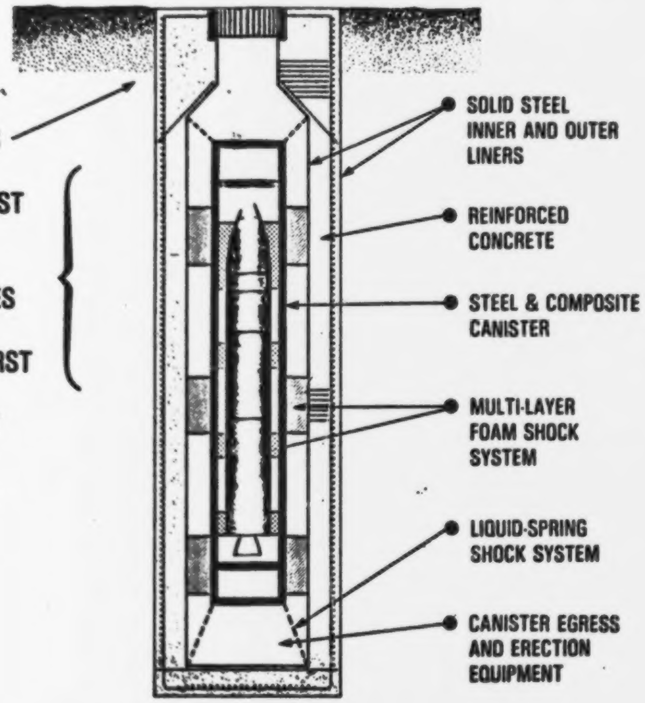


The next slide is the basic concept. The idea is that super hardening of the capsules that hold the MX forces the Soviets to use higher yield warheads to attempt to destroy them. It also permits us to move these capsules closer together while still preventing the Soviets from using one warhead to attack two capsules, and that is the value of super hardening.

This closer spacing requires the Soviets to use higher yield weapons thus causing them increased fratricide effect; that is, the first arriving weapons detonate and set off a chain of nuclear effects that then either kill or disable subsequently arriving weapons, so that the Soviets who are planning an attack first of all have to use an exquisitely fine grained attack structure, and then have to contemplate avoiding to the best of their ability the fratricide effects. The effectiveness of that kind of attack is minimal. This exquisite attack structure that I have described then limits the Soviets in the number of warheads and in the timing of that attack, so that they cannot bring the full force to bear on closely spaced basing that they might have brought against other strategic systems.

[Slide.]

SUPERHARD CAPSULE


SOLID STEEL INNER AND OUTER LINERS
REINFORCED CONCRETE
STEEL & COMPOSITE CANISTER
MULTI-LAYER FOAM SHOCK SYSTEM
LIQUID-SPRING SHOCK SYSTEM
CANISTER EGRESS AND ERECTION EQUIPMENT

MULTI–LAYER PROTECTION

- SUPERHARDENED HEADWORKS
  - OVERBALANCED FOR AIRBLAST
- SUPERHARDENED SIDEWALLS AND PROTECTION STRUCTURES
  - BALANCED FOR GROUND-BURST
- MULTI-MODE SHOCK SUPPORT OF CANISTER
- FOAM SHOCK-ISOLATED MISSILE
- HARDENED MISSILE AND SUPPORT EQUIPMENT

If you will turn to the next slide, we have shown you a super hard capsule. That is a notional design. The specific design will be undertaken in the next several years, but there are some important points on this.

It is specifically designed with an emphasis on avoiding damage from an air burst. We want to force ther Soviets, if they contemplate an attack on this system, to consider the ground burst as the most effective, because the nuclear effects that would destroy their incoming re-entry vehicles are also of greater magnitude, and an attack from their perspective is far more risky.

I cannot answer details on the hardened capsule, but we have growing confidence that we can achieve hardness levels that we have not been previously contemplated.

[Slide.]

FRATRICIDE EFFECTS

- PROMPT RADIATION
- AIRBLAST
- FIREBALL
- DEBRIS (EJECTA)
- DEBRIS (PEBBLES AND DUST)

For fratricide we are using definition that we want to show you on the next slide, and that is that the detonation of early arriving weapons can kill weapons that subsequently arrive on adjacent capsules, and by that we mean they can physically destroy them.

In addition to physical destruction, blast deflection can increase the miss distance, or erosion of the nose tip of the re-entry vehicle can increase the miss distance, when you consider that the targets are very hard those accuracy degradations make the arriving weapons much less effective.

Finally, dust and debris from these detonations delay the re-attack for a period of ——— or greater before they can come back in for a subsequent attack.

Mr. WILSON. Why is that?

General McCARTHY. Sir, there are a number of reasons, but the principal one is that the dust that would remain after that kind of an attack erodes the re-entry vehicle, and then the heating as it passes through the atmosphere at high speed can cause it to burn up. That is one of the effects.

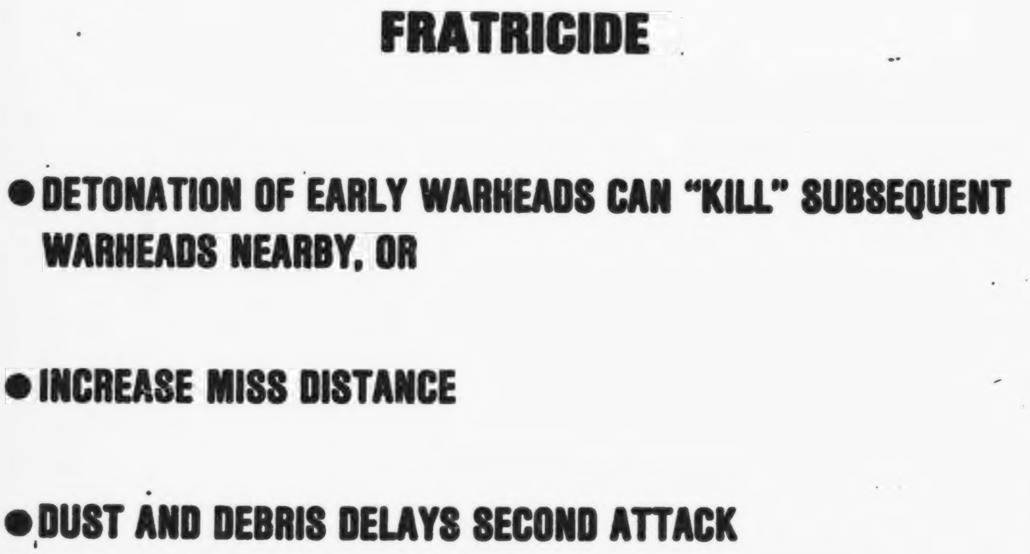
Dr. DELAUER. Accuracy is the other. The asymmetrical erosion also affects the accuracy.

General McCARTHY. That is correct.

Dr. DELAUER. You may get more dust and more debris. Some of the debris can be bigger than this ash tray. Essentially it is a big dust storm. It is like the effects of a sand storm on your windshield.

That is what the re-entry vehicle is. It has an ablative material that comes off and if it comes off asymmetrically, you get dispersons in the flight trajectory.

[Slide.]



FRATRICIDE

- DETONATION OF EARLY WARHEADS CAN "KILL" SUBSEQUENT WARHEADS NEARBY, OR
- INCREASE MISS DISTANCE
- DUST AND DEBRIS DELAYS SECOND ATTACK

General McCarthy. The next slide shows fratricide effects.

Under prompt radiation what happens when a nuclear weapon detonates is that, first of all, gamma radiation and neutrons go immediately out and spread to some distance. From a one megaton weapon, for example, they go out to an effective range of about ——— in terms of distance that would kill a near-by re-entry vehicle, and they last for about a second.

The second thing that happens is that the detonation sets off a shock front or an air blast that travels slower than the neutrons or the gamma radiation, but goes out, and also creates an adverse environment that could kill the re-entry vehicle by the shock wave that hits it, and we are talking about forces that exceed 300 Gs.

Finally, in terms of prompt effects, the fireball grows immediately, goes out several thousand feet, and during the time it is sitting there, which lasts 10 to 15 seconds, another weapon that goes off within that fireball finds ———.

For ground bursts, the detonation raises ejecta, which consists of large boulders, some of them larger than a Volkswagen, that are thrown up and ejected out of the crater for some significant distances.

Obviously the smaller the object, the further that it is thrown, and then that gradually translates into dust and debris, which are the primary effects created from an air blast.

When you combine all of these various effects, you find that the Soviet attacker trying to figure out how to attack a closely spaced basing system cannot find a window in which he can confidently attack, and he has to then avoid those fratricide effects, which he does by attacking only a portion of the system.

We believe that after his first wave attack, the opportunity to launch MX exists because the dust and debris affects the incoming re-entry vehicles significantly more than it affects the hardened MX missile, and that during that time frame we can fly out and retaliate from his attack.

In the long term the Soviets may be able to come up with improvements in their systems specifically designed to overcome our new basing mode, and the value is that we have a number of growth options that either discourage him from taking some of his more promising roads or that handle those threats if he chooses to go that way.

Mr. ADDABBO. General, may I interrupt?

The Secretary has an appointment at twelve o'clock. You may be excused, Mr. Secretary.

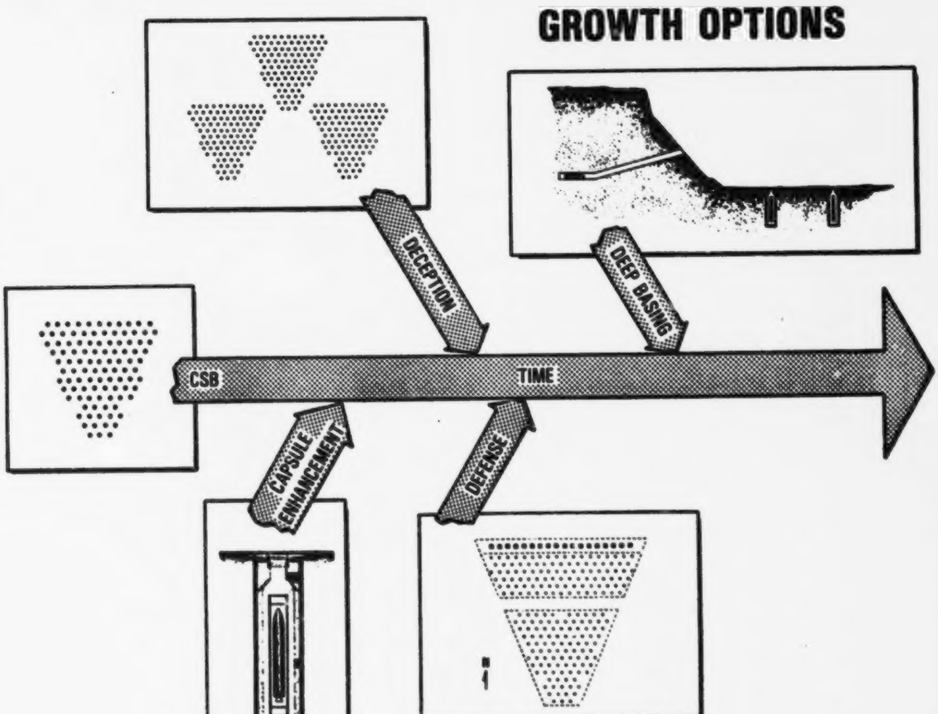
Secretary WEINBERGER. Thank you very much, Mr. Chairman. I appreciate your courtesy and the courtesy of the committee as always.

Mr. ADDABBO. We have many questions which we did not have a chance to have you answer. We will submit them for the record. You will have time before markup, which won't be for a while.

Secretary WEINBERGER. Thank you very much.

Mr. ADDABBO. Proceed, General.

[Slide.]



GROWTH OPTIONS

General MCCARTHY. In terms of the growth options, one of the things that we can do in addition to the hardness levels that we believe that we can achieve is capsule enhancement. To gain enhancement we take the capsule I have already described to you, and by using some additional techniques we can make it substantially harder, or alternatively, we could build more of those capsules in a concept we call deception, where one missile could be moved between a number of capsules.

Another avenue that has merit is defense. If the Soviets contemplated an attack on this system, they would have to structure their attacks both in time and space in a very constrained way presenting about as near an ideal ABM target as you could get. The effects of an ABM system then disrupt this required exquisite attack structure and compound the Soviet's problem as they contemplate attacking the system.

Finally, Deep Basing, which envisions putting MX missiles in a system in which, because of the physical geography they could not get their warhead close enough to the MX to destroy it, is another growth option.

[Slide.]

SEQUENCE OF POTENTIAL BENEFITS

CLOSELY SPACED BASING: IOC: 1986	• SOVIET HARD TARGETS AT RISK • ARMS CONTROL LEVERAGE • PROMPT RETALIATORY RVs • SUBSTANTIAL STRESS ON SOVIET R&D • EFFECTIVENESS FOR EARLY 90s THREAT
PLUS DECEPTION AND DEFENSE: IOC: 1986-88	• LARGE DRAIN ON SOVIET RV RESOURCES • ADDITIONAL SOVIET UNCERTAINTY • ADDITIONAL STRESS ON SOVIET R&D • ADDITIONAL TIME FOR RETALIATION • EFFECTIVENESS FOR THREATS RESPONSIVE TO CSB
PLUS DEEP BASING: IOC: EARLY 90s	• RADICAL STRESS ON SOVIET R&D • ENDURING SURVIVABILITY • EFFECTIVENESS AGAINST THREATS TO DECEPTION AND DEFENSE

We have tried on the next slide to describe what we consider a sequence of benefits; that is, putting MX in Closely Spaced Basing has great merit in that it builds the foundation for subsequent responses. While Soviets are being driven one way to respond to the first step in our program, they would be forced to pursue an entirely different way to respond to another possible step in our program, and an entirely different way for the subsequent steps. In terms of the CSB, which we envision for a 1986 IOC, we put Soviet hard targets at risk, which is the principal reason why we need the MX missile. We also gain arms control leverage. Because prompt retaliatory RVs would survive an attack we have significantly stressed the Soviet R&D program and we have fielded a system with effectiveness that we feel confident can handle the threat through the early 1990s.

After the Soviets have built what we believe are larger more technically complex re-entry vehicles to handle that type of attack, then we could add deception and defense. We have capped fractionation by the first step—the basic CSB deployments. Now to overwhelm a defense or deception system, they would need to proliferate large numbers. This increases the stress on Soviet R&D, and provides an effective response to their counters to CSB.

Finally, if we go to Deep Basing, it requires an entirely different research and development and deployment system to handle those particular problems, so consequently we believe that the fact that we would have these large opportunities to respond to Soviet threats in some cases will cut off their response. Where we have a cheap, easy response, it will certainly stress their programs as they try and compensate for our improvements in ICBM survivability.

I would like to point out, Mr. Chairman, that this is the most promising concept. We have had, for a number of months, virtually the entire community involved in verifying our figures and we are preparing a report to submit to the Secretary of Defense to verify these particular concepts.

COST OF DENSE PACK

Mr. Addabbo. Thank you very much, General.

Mr. Secretary, I understand this whole new program will cost about $28 billion.

Dr. DeLauer. Right now we are trying to figure out just what it all entails. Our general estimate now is that it will be less than the MPS system. The amount of real estate involved and the amount of construction is much less. To give you an example, this whole Dense Pack——

Mr. Addabbo. I know what it is. We have limited time. It will still cost around $28 billion?

Dr. DeLauer. In ballpark figures, that is approximate. It hasn't changed much. It is a little less. It hasn't gone up.

SOVIET TESTS OF FRATRICIDE

Mr. Addabbo. I am informed that in 1962, just prior to the test ban treaty, that the Soviets had actually tested the fratricide effects in Siberia and that after exploding a warhead they flew two more RVs through that.

Were we ever able to get any results of that test or what conclusions the Soviets drew from that test?

Dr. DeLauer. ———. In early 1962 the Soviets had what we called low beta RVs, which go very slowly, and they had ———. Since that time, however, they have followed our lead, to higher accuracy by going to higher beta, which requires very pointed and high velocity RVs.

I don't think they have ever tested them because the test ban treaty came into the act, and they didn't have that kind of capability at that time. Now they have tested both radiation effects—the part that the General talked about the prompt radiation from both gamma rays and neutrons. We have done that underground.

DENSE PACK HYDRAULIC SYSTEM

Mr. **Addabbo**. Mr. Secretary, let's look at this program. After a missile hits—and the General spoke about the flying debris and everything else—I can envision at least 20 or 30 feet of debris being thrown in the air and deposited on adjacent silos.

Each silo has a protective lid on top of the missile. My people tell me that will weigh about one million pounds. Then you have the missile itself, the capsulated missile weighs another half million pounds. Will the hydraulic system be able to lift that lid and everything else?

Mr. **DeLauer**. Yes, we will be able to do that.

Mr. **Addabbo**. General?

General **McCarthy**. If I may, the canisterized missile is only about a half million pounds.

Mr. **Addabbo**. The missile itself. What about the lid?

General **McCarthy**. In general terms, while we haven't specifically designed it, that is a fair statement of the weight. We have actually tested designs and have developed hydraulic systems and actually tested them to approximately that weight already, so we believe that is a doable thing.

We are looking at all of the weapons that we believe the Soviets could use, if they contemplated an attack, assessing the level of dust and debris that would be over the top of the silo, and developing our designs to accommodate those levels.

Now, there are some circumstances where if the weapon hit in the very close proximity to a capsule to the point where it would destroy it, the level of debris may be greater than what we could come out of using the launch mechanism. However, the shock wave that hits that capsule from such a detonation would have already killed it anyhow.

FALLOUT FOLLOWING ON ATTACK

Mr. **Addabbo**. $28 billion for all these holes all packed together. What happens to the fallout? How far does that travel over the United States? You tell me, General, that because if we are going to do this and have this Dense Pack, the Russians will have to use a heavier warhead. Now, a heavier warhead gives you heavier fallout. When you have heavier fallout, that means greater areas will be covered.

Mr. **DeLauer**. That is not necessarily so.

Mr. **Addabbo**. Where does the fallout go?

General **McCarthy**. First of all, I don't agree with the thought that just because they use a larger warhead that the fallout effects on the United States would be greater. I would suggest, first of all, our purpose in building this system is to make sure you never get a detonation of Soviet RV on this system.

The basic principle is deterrence. But if the Soviets have *x* number of missiles, which we all acknowledge that they have, one of our objectives is to limit the number of re-entry vehicles they can put there and by designing a system that is hard, they are forced to larger and larger weapons, which means that they have fewer and fewer re-entry vehicles to attack targets.

Now, the net effect of the smaller number of large weapons would put less fallout on the United States than the proliferation of warheads, which was sometimes postulated if we encourage them to go to large numbers of small warheads. In terms of overall fallout, if you are talking about an exchange, I think a case can very reasonably be made that there would be less fallout on the United States.

DENSE PACK CONTROL CENTERS

Mr. **ADDABBO**. Will a Dense Pack require several control centers or do you use one control center?

General **MCCARTHY**. We are still trying to make the trades to determine what would be the most effective. We would have a peacetime monitoring status. We would have either an underground launch control center that could survive an attack or an airborne command and control system. We have not yet made that decision.

Mr. **ADDABBO**. But it needs a separate control system. If you knock out that control system, you knock out the Dense Pack.

General **MCCARTHY**. Sir, that is correct for all of our strategic systems. That is why we provide a redundancy of both command and control and the ability to execute the system.

ALTERNATIVES TO DENSE PACK

Mr. **ADDABBO**. Why could we not adequately provide for our defense—and again I think it has been a deterrent, also—if we just continued with our program of upgrading our Minuteman, hardening the silos, and improve our sea-based and bombing deterrents without going to this $28 billion expense?

Dr. **DELAUER**. The present Minuteman deployment is not survivable relative to the present capability of the Soviet Union. They have higher accuracy warheads. They have fractionated their payload capability or throw weight, and they have fractionated it in such a way that they can put so many RVs on a silo. The Minuteman silos are 2,000 PSI. They were never designed to be able to survive attacks from such accurate systems. They were spread apart in distance so that no one arriving RV could kill two missiles. Now that the Soviets have fractionated their payloads combined with the fact they have got so many missiles, the whole Minuteman complex is now completely under threat and is not survivable.

Mr. **ADDABBO**. But a couple of months ago it was.

Dr. **DELAUER**. No; it was never——

Mr. **ADDABBO**. You were putting the MX in those missile silos and all of a sudden it is not survivable.

Dr. **DELAUER**. We never argued that we were going to put them in for survivability. We recognized what we were going to do, which is the first item on the next to the last or very last chart, item number one. It would bring Soviet hard targets at risk. The present accuracy of the Minuteman system and its present yield does not permit us to go after the Soviet hard targets. Now deploying the MX with its capability would take care of bullet number one, but it would not be survivable if they had a first strike. There is no question about that, and we never argued that. Our argument was that it was sufficient for the expenditure of funds from a deterrent standpoint that we bring Soviet hard targets to risk, on an interim basis, on a nonsurvivable basis, but over the long-term the land-based system had to be put in a survivable basing mode. That is why we got rid of MPS. It was not survivable with fractionization.

Mr. ADDABBO. The gentleman from Alabama?

SPENDING ON STRATEGIC NUCLEAR WEAPONS

Mr. EDWARDS. Mr. Secretary, I am supposed to be one of the hawks on the committee, I guess, but I swear the more I sit here and listen to this, the more I wonder what in the world we are up to.

Do you ever get that feeling?

Dr. DELAUER. Look, I have been in this business most of my life. What I have been concerned about is maintaining the Triad and the deterrent of the Triad. People sitting around trying to fight nuclear wars with a deterrent force find there are bound to be ambiguities, but the point is that the same questions were asked in 1958 when we laid down Minuteman.

We have yet to fire a Minuteman out of an operational hole. It has been a viable deterrent for close to 25 years now, actually over 25 years, and the price, the investment that you pay for having that kind of a deterrent requires you to make the judgment as to whether or not it is a cost effective way. In my view, it is.

Mr. EDWARDS. But let me tell you what I have heard here in the last 20 minutes, that the Soviets are now ahead of us.

Dr. DELAUER. Which is true.

Mr. EDWARDS. So, we have got to build the MX to get ahead of them. The General said that after the IOC in 1986—and I am looking at the last page, so if I misquote you, General, you say so—when we do this, then the Soviets are going to build something that will attack more effectively.

Dr. DELAUER. I hope not.

Mr. EDWARDS. Well, is there any reason to believe they won't?

Dr. DELAUER. Yes. I will answer that question.

Mr. EDWARDS. OK.

Then we come back with the Department of Defense IOC of 1986. Then they come along with something to get that. Then we go to deep basing. I sit here in frustration. I really do. I want to defend this country as best I know how, but it looks to me like all we are doing, both sides, the way it is going, we are just finding different ways to spend more money to upgrade so we can get ready to take on their next challenge.

Isn't there a way to stop all that?

Dr. DeLauer. We think this program has a chance. As Jim pointed out, there are great numbers—will you let me answer your question, Mr. Edwards?

Mr. Edwards. I would love to hear your answer.

Dr. DeLauer. One of the things we have to do, there is just no question—that is, the whole part of the arms reduction talks—is to get the levels of strategic systems down in numbers.

What we would like to do is create a situation where both sides could have a credible deterrent at a much lower force level, where you need fewer systems to support both sides perceptions of deterrence.

Now, what happened with the MPS system was it fractionated warheads, it made more, not fewer weapons. The fact that his tremendous arsenal is ineffective against a Dense Pack, he can only have so many missiles, he doesn't need anymore. He can have a deterrent from his side against that particular kind of a system with much fewer missiles.

On the other hand, we create such uncertainty in his mind in regard to whether his attack will be a success that a deterrent exists. That is what a deterrent is.

Now, two, the fact that we have this program as laid out on this slide also helps to make MX a viable program. If there was a road stopper immediately in front of you, then you know that it would be silly to make that investment because his counter-investment could negate it. On the other hand, if you could show that over a period of time the leverage, the exchange leverage makes it cheaper for us to put holes in, than it is for him to do all of that, then the leverage will come back to the point where the Soviets will negotiate.

That is the same argument I gave you on the B-1. The leverage of the cost of the B-1 and the ATB on their defense systems is going to permit us to have an exchange value in our favor, and the whole strategic system is designed to do that.

Mr. Edwards. You know what you are saying is that you are depending on our economic system to outlast their economic system, so we can go the furthest and the deepest and the biggest and finally wear them out to where they can't afford to go any further.

Dr. DeLauer. Let me get this straight.

Mr. Edwards. I am in a good mood today, you can tell that.

Dr. DeLauer. You are in a good mood and I am in a good mood, too.

The thing is, as I pointed out before, the whole strategic modernization program is not taking much more than 15 percent of the defense budget. In the whole next decade it is going to be roughly that. 15 percent of the defense budget is only 1 percent of the GNP. Now, 1 percent of the GNP isn't taking all our economic capability in order to have a deterrent that is viable however, it is one that will force the Soviets to negotiate seriously on reductions of arms. I think 1 percent of our GNP is a price well worth paying for a viable deterrent. We don't have a viable deterrent now. This is the point of the whole strategic modernization program, not just MX.

General McCarthy. May I add to that, Dr. DeLauer?

One point, Mr. Edwards, that I think bears emphasizing is the fact that the Soviets are sitting there now in hardened silos.

Dr. DeLauer. That is the point.

General McCarthy. Relatively invulnerable to our ICBMs, where our side is very vulnerable to their improvements because we haven't done much in the last few years, and we need that capability that puts their hard targets at risk, so then they have to expend their funds on gaining survivability themselves instead of on offensive forces. Then they will have fewer resources to spend on threatening our forces.

Mr. Edwards. So our economic system can outlast their economic system?

Dr. DeLauer. At the level of 1 percent of GNP.

Mr. Wilson. That is certainly a lot better than the option.

PIN DOWN CONCEPT

Mr. Edwards. I understand all that. I understand an answer to everything I am raising here. I have an article here somebody has written about something called "pin down tactics."

Dr. DeLauer. Pin down.

Mr. Edwards. What is the answer to that?

General McCarthy. The pin down is a concept in which after the Soviets make a first strike on a closely spaced basing concept, then they would explode nuclear weapons over the top of CSB to keep us from flying out.

Dr. DeLauer. High altitude?

General McCarthy. It is a tactic, if you will. We believe that there are reasonable answers to pin down. One is that the burden is on him to sustain this over a long period of time. A lesser burden on us is to break that pin and get out so he has to expend large amounts of resources to do that and he has to maintain that pin. Any time that we get a break in there, we can fly out. We can handle that in a variety of different ways. They include ballistic missile defense to intercept his pin, by providing more arrays that are spread apart to increase the complexity of that, but I think the best answer is triad interaction. While he is required to sustain pin down over a long period of time, our other Triad forces, and including whatever Minuteman would survive, respond back and interrupt his pin capability. consequently he does not have the confidence he can sustain that type of an attack over the period of time—we can fly out.

Dr. DeLauer. We also have the option of pin time, too, and yet we have never really taken that as a serious part of our offensive capability because what it does is use up your resources and you don't get any from him at all. You keep him from utilizing his, but he is still survivable over that period of time. As a consequence, he still has remaining assets after you have started to exhaust yours. We haven't planned for that technique.

Mr. Edwards. One last question. This one million ton, one million pound, whatever it is, cover you are going to have over these holes——

Dr. DeLauer. That includes the debris.

Mr. Addabbo. No, just the cover. That does not includes the debris.

Mr. Edwards. Who is right?

Dr. DeLauer. The chairman is right.

Mr. Edwards. What do you make that out of, concrete and steel?

General McCarthy. Yes sir.

Mr. Edwards. I don't want anybody to take what I have been saying here as some new Edwards' position, necessarily, but I sit here and think that this whole world has got to be foolish.

Dr. DeLauer. It sure does.

Mr. Edwards. If we can't find an answer.

General McCarthy. You are absolutely correct.

Mr. Edwards. Thanks you, Mr. Chairman.

STAYING WITH EXISTING SYSTEM

Mr. Addabbo. As I said earlier, why not continue to go with the Minuteman? It has accuracy and hard target killing capability. As shown in one of the scenarios the General just put us through, knocking out Minuteman, still requires the Soviets to expend their missiles. We still have the Trident II submarine missiles, which have 25 million square miles to hide in, and we still have our airborne capability with the cruise missiles. Looking at this boggles the mind.

The gentleman from Texas, Mr. Wilson?

EXPLAINING NUCLEAR DETERRENCE

Mr. Wilson. I sometimes get confused when I am explaining to a constituent, about the fact that we have got our Trident IIs out there, that we have got the B-1 bombers and that we have got some Minutemen that have survived. Isn't that enough? Let's say, in their calculations they strike at our Minutemen without striking at our cities. Right?

Dr. DeLauer. That is right. We will assume that, yes.

Mr. Wilson. Of course, if they strike at our cities then it is just Katie bar the door all the way around. The argument is that we need the MX survivability so that they cannot deter our ability to destroy the missiles they have left. Is that correct?

Dr. DeLauer. The argument has that element in it, but the fundamental argument is we are building a deterrent.

Mr. Wilson. We have got a deterrent.

Dr. DeLauer. But the point is this. Let me give you a for instance. This is only a for instance. Without the land-based missile system, we don't have a land-based missile system——

Mr. Wilson. They have knocked out our land-based system.

Mr. DeLauer. No, once the balloon goes up that is something different. I am talking about a deterrent now. I am talking about not having the war start. I am not talking about having a nuclear exchange start. As a matter of fact, the only time a nuclear exchange was threatened, it never happened because they backed down over Cuba.

The point is, we are building a deterrent. Why do we talk about deploying the deterrent? Because that makes it credible. It is not a deterrent if the opposition does not feel that it can be employed in a way, that their intelligence says it might happen.

We have got a deterrent. Right now this deterrent—it is a nuclear deterrent—is based on three elements: elements of the air breathing leg, which comprise the bombers; the submarine leg, which comprise the SLBMs; and our land-based ICBMs.

They have all got different characteristics. The first one has got recall. That is what is so good about the bombers. You can flush them and get them recalled. The inherent accuracy of the weapon also contributes.

Now, if I do away with the land-based ICBM leg of the Triad, they could focus only on the other two.

Mr. **Wilson**. No, but they have got to knock out the leg.

Dr. **DeLauer**. I focus on the credibility. Now, if you will let me finish, Mr. Wilson, I will shut up.

Nothing has happened. No war has started. No exchange started. What if we lost a submarine?

Mr. **Wilson**. A submarine?

Dr. **DeLauer**. What if one of our ballistic missile submarines just disappeared? What if we lost two? You know, you don't have to start the war by having submarines disappear. Right away then you would really have only two viable legs to the Triad, which would become a Diad, and which would be suspect as a deterrent. You don't know why you are losing them. You have lost some of the capability and the point is your level of deterrence would decrease.

What we have been trying to advocate is that the nuclear deterrent is just that. It is building a deterrent. The fact that you go through these exchange studies, and the fact that you make out that you have a war, and the fact that you lay down a SIOP for how you would employ all of these is to make it a credible deterrent.

A deterrent is not a deterrent if it is not credible, and that is what we are building, and the nonsurvivability of minuteman has made the land-based ICBM leg noncredible. That means the Soviets know that it is nonsurvivable. They can afford to focus on the other legs.

Still, the fact that even there in place, it is a very, very, capable system, but it is nonsurvivable. Over a period of time it will lose its credibility. We are basically creating a deterrent. We are not creating a war fighting machine.

NUCLEAR ATTACK SCENARIO

Mr. **Wilson**. Let's go through it. Let's say that we have a crazy man that succeeds Brezhnev and he decides that all of our worst case scenarios are true and he orders a nuclear attack.

Dr. **DeLauer**. The balloon is up. Now it is survivable.

Mr. **Wilson**. He orders a nuclear attack, but isn't our theory based on the idea that he is going to either attack our cities or attack our missiles. He attacks the missiles. He gets most of them. Then it seems to me that the reason for the MX is that he doesn't get enough of them to a point where we can't get what he has got left.

Dr. **DeLauer**. That is absolutely true. That is one thing, and since in fact he cannot get enough of them we feel will keep him from starting in the beginning. That is the reason for the survivability. Once a nuclear exchange has happened, the nuclear war is on.

Mr. WILSON. Yes, but hasn't this Administration taken the position that a nuclear exchange would be possible where we would only attack each other's weapons?

Dr. DELAUER. No, I don't think this Administration has taken that position.

Mr. WILSON. In other words, if they only attacked our missile sites you think that our response would be to attack their cities.

Dr. DELAUER. No, I think we would attack their military targets.

Mr. WILSON. But to me—and I am talking in more simple terms—the reason for having the MX missile is still that they would know that if they tried a first strike, we could get what they had left.

Dr. DELAUER. We could get what they have left with some of the other assets we have, too.

Mr. WILSON. That is where the chairman has got a point.

Dr. DELAUER. But it is not only that. It turns out that if you view the balance, which we went over with you last year, and look at a net exchange, the final result is that they still have surviving capability when we have zero, and our deterrent has failed.

Mr. WILSON. They still can't attack our cities then because we still have got the submarines to attack theirs.

Dr. DELAUER. We have used the submarine as set-ups in this exchange, and they still have some left over.

Mr. EDWARDS. This sounds like Dense PacMan.

Dr. DELAUER. The reason you create your forces——

Mr. WILSON. I just have a hard time explaining to my folks.

Dr. DELAUER. We have been living under a nuclear deterrent for almost 30 years and nobody has ever explained. The best explanation is by Mr. Rostow in an unclassified talk he gave about two months ago in Baltimore. He had the best explanation of what is a deterrent capability, and what the concept of deterrence is and how we have to implement it.

This whole question of what we focus on in survivability is to provide some legitimacy to the fact that the deterrent is indeed a deterrent. In shirt-sleeve language, the fact that somebody can punch you in the nose without really being able to hurt you may have an awful lot to do with the way you treat him. If you know he can punch you in the nose and really hurt you, you may not be as eager to have conflicts with him. In fact, you may avoid him or even defer to him, this sort of thing.

That is essentially a deterrent. How much you pay for it is what this committee and what we have to do together. You have got a deterrent at home. You put locks on your doors. That doesn't keep the guy out. If a guy is determined——

Mr. WILSON. I have got a nine millimeter deterrent.

Dr. DELAUER. Yes, you have got all those things.

Mr. WILSON. Without the MX, they launch an attack on our military targets. Now, our theory, it seems to me, has got to be that we then do not have the capacity to destroy their military targets without the MX.

Dr. DeLauer. We can't destroy them all.

Mr. Dicks. We can't do it with the MX.

Mr. Wilson. We can't?

Dr. DeLauer. You can have your surviving capability after they have an exchange with an MX if we do it right. If we don't, then we shouldn't have it.

Mr. Wilson. I don't think you can make all these decisions in the 30 minutes that the missiles are on the way over here. I think the decisions have already been made, and I hope so. The President may be riding his horse out in California when they let go.

Dr. DeLauer. You would like to have some capability?

Mr. Wilson. Some doctrine.

Dr. DeLauer. Also, you would like to have some survivability, wouldn't you?

ACCEPTING A FIRST STRIKE

Mr. Wilson. Yes, but under the last administration, wasn't it the policy of the doctrine to accept the first strike and then decide what to do?

Dr. DeLauer. If it is a question of doctrine, I don't want to get into the areana of the military planners. I am supposed to be an acquistion guy, but the point is, we are doing everything possible in creating our defense so that we could accept a first strike, and that is what we are doing.

Mr. Wilson. What would the rationale be since our satellites are so good, since we know exactly where they have launced from, we know within something like a minute and a half whether the targets are the cities or the military targets, what would be the rationale to accept a first strike?

General McCarthy. May I, Dr. DeLauer?

The prospect of a nuclear war I think is considered by all of us so dramatic, so catastrophic, that we would never want to place a burden on the President to try and decide whether to execute our own forces based on intelligence information or satellites that, first of all, may not exist because the enemy has taken them out, or because of the uncertainties of interpreting the information, or the time that he has to make a decision. So, therefore, we have tried to design our forces so that the Soviets, viewing their possibility for a first strike on those forces, know that they could never kill a significant portion of them, and then be able to withstand a responsible attack on our part.

They are deterred then from making that strike in the first place. Another subset of that logic train is crisis stability. If you put forces that could eventually affect them in vulnerable systems, in a crisis situation, where you are trying to cool everything down, there is an incentive for somebody to go first, and that incentive to go first is considered to be destabilizing. It increases the prospect of nuclear war.

What we then want are systems in which the Soviets recognize there is no advantage in going first, and an ideal circumstance would be where the guy that goes first places himself immediately at a disadvantage.

Now, how the MX contributes to that in a survivable basing mode is that he would never be able to get a sufficient portion of that force such that he would judge the retaliatory attack acceptable on his country.

Mr. Wilson. But why would we not let go when he lets go?

General McCarthy. Well, the uncertainty and the time lag. If we are all sitting here today and all of a sudden our attack assessment says there is an incoming attack, certainly we would prepare our military forces to launch. But that is a fairly awesome decision on the part of the United States to unleash our military nuclear forces on the Soviet Union, and recognize they would respond.

Mr. Edwards. It may be a computer error too.

General McCarthy. There is that possibility.

Mr. Wilson. I have got one more question, General. How long have you had this job?

General McCarthy. About two and a half years, sir.

Mr. Edwards. In your own personal opinion—and you may not be able to answer this because they may bust you down to sergeant or something—but in your own personal opinion, do you believe that the Dense Pack basing mode is better than the mode that was recommended by the Carter Administration?

General McCarthy. Sir, I would answer the question this way: In a constrained threat environment, where the Soviet force level is constrained by arms control or by some other method, an MPS-type system, that has more shelters than they have re-entry vehicles, works.

Mr. Edwards. Would it work better than a Dense Pack?

General McCarthy. I would not want to say that. I would say it works. We are not in that circumstance now. Most of us judge that the Soviets have re-entry vehicles that exceed any prospect of how many shelters you could build, and so Dense Pack is another way to approach the same problem.

In terms of what I know about the Dense Pack system—and I have been working on it now for six months—I believe that it is a viable system, and it will do what is required, and that we should proceed with it. That is a personal opinion, and my service has not yet taken a position.

Mr. Edwards. Thank you.

Mr. Dicks [presiding]. Mr. Robinson.

DOD'S AUTHORIZATION APPEAL

Mr. Robinson. Thank you, Mr. Chairman.

Mr. Chairman, in the open session I requested that the authorization appeal be placed in the record.

Mr. Dicks. Without objection, it will be.

Mr. Robinson. I find that is a classified document, and I would request that it either be placed in the classified annex to this hearing or that a sanitized version be prepared at the same time that they edit the trasncript.

Dr. DeLauer. Mr. Robinson, we have an unclassified version of that.

[Clerk's note.—The unclassified appeal was printed at page 677.]

Mr. Robinson. That answers the problem then, Mr. Chairman.

Dr. DeLauer. We will make it available.

OTHER NUCLEAR WEAPONS

Mr. Robinson. Continuing the line of discussion we have been involved in for the last few minutes, we have talked about the three legs of the Triad and how they fit into the overall picture. When we talk about the strategic climate, where do we get into the ICBMs, the ALCMs, the GLCMs, and the SLCMs being nuclear-tipped as some of them are? How do they fit into the overall picture, and at what point do we visualize their being utilized?

Dr. DeLauer. Let's take the ALCMs first since they are part of the Strategic Air Command's assets. They are capable of going after fixed targets, not after time dependent or mobile targets, but rather those at fixed geographical locations. They are starting to get into the SIOP now. They are primarily the basis for extending the lifetime of the B52s, since as B52 penetrativity is degraded, the ALCM's great range improves the B-52 survivability. Now, the planning for the land attack version of the ship-launched or submarine-launched cruise missile is currently targeted on ———. I don't know right now just where we stand on integrating them into a SIOP.

Do you know, Mac?

General McCarthy. No sir, I do not.

Dr. DeLauer. That would be a better question to ask the CINCSAC, since Bennie Davis is the man that knows exactly where they fit in. Unitil they get into the SIOP, however, they are not in the strategic plan.

Mr. Robinson. What about the ground-launched?

Dr. DeLauer. The GLCM is to be used primarily as a theater weapon. ———.

Mr. Robinson. And there is ———.

Dr. DeLauer. Not at the present time, no. I think, John, who was on the cruise missile programs, says ship-launched and sub-launched cruise missiles are treated pretty much as reserves.

Colonel Douglass. It is considered a part of the strategic reserve force.

Mr. Robinson. Really the only ones in the strategic category ——— are ALCMs?

Dr. DeLauer. Yes, the ALCMs ——— range adds to the survivability of the B-52.

Mr. Robinson. When we hear all this talk of the number that exist in our inventory versus those that exist in the Soviet inventory, are the warheads included in these cruise missiles and ICBMs counted?

Dr. DeLauer. Right now there are not too many cruise missile warheads. There will be as the ALCM becomes operational since ALCM warheads would be included in the inventory count. As a matter of fact, as you might remember, in the SALT II negotiations there were some restrictions on how you really counted the carriers and how many warheads they could carry.

Mr. Robinson. How do you account for nuclear-tipped artillery?

Dr. DeLauer. You don't. That is a theater nuclear weapon. You count them, but not in the strategic sense. At one time, we used to count the tactical bombs as well.

Mr. Robinson. That doesn't quite answer my question, because we hear a lot of statistical comparisons with regard to what we have versus what they have by the people who are trying to speak for this nuclear freeze. Are nuclear artillery shells included in any of those counts in that regard?

Dr. DeLauer. In some people's counts, yes.

Mr. Dicks. In the 50,000 warheads?

Dr. DeLauer. Yes.

Mr. Dicks. That is the one where you will pick all this up.

Dr. DeLauer. You throw everything in.

Mr. Dicks. That gets every one of them; 9,000 are strategic, as I understand it.

Dr. DeLauer. Around that.

MX RANGE

Mr. Robinson. A couple of technical questions about the MX. In one of your charts there is mention of range, 10 ABRVs to MM range. Does this mean that there will be 10 RVs on an MX, and the range will be the same as the Minuteman?

General McCarthy. Yes sir, that does.

SUPERHARDENED SILOS

Mr. Robinson. The superhard capsule is, of course, to be that, superhard, but do we know what PSI equivalent that will infer as compared to the 2,000-pound for Minuteman?

General McCarthy. One of the things that we have learned in our efforts in the last few months on silo hardness is that PSI is not the proper measure to determine silo hardness.

Mr. Dicks. It is not?

General McCarthy. It is not, in terms of the weapon yields that we are talking about and the hardness levels we are talking about.

Mr. Dicks. What is?

General McCarthy. I will try and explain it to you two ways. One is the shock wave effect on the hardness of the capsule, in terms of an impulse curve, that is, the effects on the capsule of the shock wave over time. What is really important is the initial peak of that shock wave or impulse, the spike, as we call it, and how long it lasts. It turns out that if you are looking at this in terms of survival of the hardened capsules we are talking about, impulse level at ——— is the proper measure to determine what kind of pressures you can withstand.

Another way to look at this is the lethal radii of the weapon that is attacking the capsule and our estimates right now, although the DNA is verifying the calculations, is that a ——— weapon would have to hit within ——— to be effective in destroying the hardened capsule we are talking about. So those are two measures of merit that are different than the traditional PSI overpressure that you have been familiar with. That really was just a quick way to look at it. It was not purely PSI overpressure. It was the PSI overpressure that occurred at a given distance from the detonation. That is probably more than you expected.

Mr. Dicks. PSI is pounds per square inch, right?

General McCarthy. That is correct.

Mr. Dicks. What is it for MX?

Dr. DeLauer. About 2,000 for Minuteman. We haven't got that for MX.

General McCarthy. Are you talking about a capsule?

Mr. Dicks. What have you been able to do before in hardening silos?

General McCarthy. Nominally, two to ——— thousand PSI was a reference to——

Mr. Dicks. The President was talking about going to 5,000 PSI——

General McCarthy. Yes, sir.

Mr. Dicks [continuing]. In his strategic program.

Dr. DeLauer. That is right.

Mr. Dicks. I am told by the leading people who do this kind of thing that that is not possible. You can't get there.

Dr. DeLauer. Mr. Chairman, who are the leading people that are telling you that?

Mr. Dicks. Some people who I think have done this work before have said to me you can't get to 5,000 PSI. Is that wrong,

Dr. DeLauer. That is dead wrong.

General McCarthy. Sir, we believe that is wrong.

Mr. Dicks. Have you ever done it?

General McCarthy. Yes, sir, we have. We have exceeded in actual tests——

Mr. Dicks. You can do anything by analysis.

Dr. DeLauer. No, you can't.

Mr. Dicks. Go ahead.

General McCarthy. The Defense Nuclear Agency actually built ——— and using high explosive with measured overpressure actually exceeded; I believe, the level was ——— and the silo was still usable, and a missile that was in that silo would have survived and could have been launched if that had been part of the test.

Mr. Dicks. This was done by analysis?

General McCarthy. No, sir, actual test.

Dr. DeLauer. ———.

Mr. Dicks. We are supposed to rely on that. We are supposed to spend about $50 billion of the taxpayer's money on that kind of analysis?

General McCarthy. Mr. Chairman, we wouldn't ask you to do that.

Mr. Dicks. That is what you are asking us to do.

General McCarthy. We have involved the best weapons effects people and best construction peopole in the country to look at this. This has been ongoing for four months, and I will tell you that I believe that they are coming to a consensus that designing to overpressure loads well in excess of five to ten thousand PSI is possible, and it has to do with the improvements that have been made in concrete and steel combinations of capsules and it also has to do with understanding the impulse of the shock wave. I am not technically qualified to go into those details, but I can provide you with individuals who are technically qualified, and I think will testify with even greater certainty than I have.

Mr. **Robinson**. I am pleased to learn that you have actually conducted these tests and we are not making these determinations on the basis of analysis and measurements not acutally been verified.

ABANDONED MX BASING MODES

It appears, of course, that the options have been pretty much narrowed down as to the basing modes. Can you tell us which basing mode have essentially been abandoned that were at one time under consideration?

Dr. **DeLauer**. I think the MPS, the non-hard shelter, the many mobility options—they were all evaluated and rejected.

While we haven't carried on much more effort on the continuous patrol aircraft, we are finishing up what we have done on that, and so while it hasn't been abandoned, it is in the last stages of effort. Putting them in the present Minuteman silos, as General McCarthy said, would finish the planning so that is pretty much the end of that road. The ones that we are continuing to work on are just the ones that are contained in the briefing, Mr. Robinson.

Mr. **Robinson**. And the abandoned list includes at least what at one time was suggested, the seabed basing?

Dr. **DeLauer**. Yes sir, the small submarine.

FLYING THROUGH DEBRIS

Mr. **Robinson**. One final question. It is suggested that in terms of the fratricide concept, that their incoming missiles are going to be disturbed, and the accuracy will be thrown off by the excessive amount of debris that might be in the atmosphere. The question of the size of the debris, as you suggested, from Volkswagen size on down, and the Secretary mentioned ashtray size was possible, and yet it is felt that we can fly our missiles out through that debris?

General **McCarthy**. Yes sir.

Mr. **Robinson**. Is that because they are coming in in the form of RVs and we are going out in a more protected manner?

General **McCarthy**. The difference is protection, speed, and the amount of time that they are in the environment. The MX missile is starting close to the ground at near zero speed, gains speed as it gains altitude, flies at that point virtually straight up. It is protected by a shroud designed to withstand that kind of impact. Now, it is not going to withstand Volkswagen-size boulders, but the dust and debris that would be following. The re-entry vehicle, on the other hand, is coming in at many times the speed of sound. It is coming in at an angle of approximately 26 degrees, and it is going through the harsh environment for a longer period of time. It also is designed with an ablative material, that is a heatsink, and that ablative material then is eroded by this dust. Now, even when the Soviets respond, as we think they would, with higher technology-type re-entry vehicles that are designed to minimize erosion, the analysis we have done shows that this is still not sufficient because of the time that they are in that dust and debris and the re-entry angle and principally the difference in speed.

Mr. **Robinson**. Thank you, Mr. Chairman.

PINDOWN

Mr. Dicks. What if they detonate these missiles above, say, a thousand feet or two thousand feet; what does that do to you?

General McCarthy. I think, Mr. Dicks, you are referring to pindown.

Mr. Dicks. Yes.

General McCarthy. We have discussed that, but I will go through it again. The Soviets may, in an effort to keep us from responding to their initial strike, attempt to keep us pinned down by detonating weapons over the closely spaced basing array for long periods of time. That takes a large amount of weapons, very large.

Mr. Dicks. They have got a large number of weapons.

General McCarthy. That is correct. They are very subject to the interaction with our other legs of the Triad, disrupting their pindown. The heavy burden is on them to maintain that pindown continuously. The lighter burden is on us to get a window.

Mr. Dicks. You argued before that it is easy for them to add RVs and to overcome the MPS, so why can't they add RVs and overcome this by continuous pindown? It is easier because you have got it all together.

Dr. DeLauer. But even if they pin you down, they won't kill every thing. You have still got surviving capability. How long is it going to go on? The war is on.

DIGGING MX OUT OF RUBBLE

Mr. Dicks. What I can't believe, Dr. DeLauer, quite frankly, is how you are going to dig out of 30 or 40 feet of rubble all over the top of these things. I don't believe it. I don't think you can do it.

Dr. DeLauer. We wouldn't recommend this deployment if we could not.

Mr. Dicks. How do you know you can?

Dr. DeLauer. Because we will run a development program that will show you we can.

Mr. Dicks. I want to be around for that development program.

Dr. DeLauer. You will be.

Mr. Dicks. How many billions will that cost us?

Dr. DeLauer. It is all in the program. That is a small amount, however.

General McCarthy. Mr. Dicks, we have actually done egress tests in the desert using elevator systems that are designed to lift a comparable lid and a comparable amount of debris off successfully, and we have done it more than once. If the Soviets go to larger yield weapons, then the amount of debris could be higher.

Mr. Dicks. Could be more?

General McCarthy. And we have taken that into account in our design, and we will test those systems early on to insure——

Mr. Dicks. You are never going to be able to sell this to the American people. If you think you have problems with MPS, this thing is going to be much more difficult because it just doesn't—it sounds stupid, quite frankly. I don't mean that to disparge you or anyone else.

General McCarthy. I understand.

Mr. Dicks. You are in a difficult circumstance. You are trying to come up with an answer. A lot of us think we had an answer and it was scrapped for political reasons.

Dr. DeLauer. No, it wasn't.

DENSE PACK THE FINAL BASING

Mr. Dicks. A lot of us wonder in the first instance about how we got here in the sense that we wanted to justify MX so we had to show that the silos were vulnerable. There are some of us who still have some questions about that. Let me ask you this. Is Dense Pack considered to be an interim or a final basing mode?

Dr. DeLauer. Dense Pack, as we will propose it, will be the final basing mode.

Mr. Dicks. What about plus deception and defense, 1986 to 1988 plus deep basing in the early 1990s?

Dr. DeLauer. That is all the thing. Let me remind you again that when Minuteman was first put in, it was non-survivable from EMP. We added EMP protection to Minuteman silos as our very first modification. We found three years later that our tests were not at hardness levels we thought, so we increased the hardness of Minuteman throught the improvement program which finished in 1978–1979.

We have continually improved the Minuteman capability over the years. We expect to improve any system as the threat develops. You wouldn't put any of these changes in if the Soviets did not counter the particular capability you have. That is exactly what we do all the time.

They have spent a lot of money getting high accuracy, for one reason. That is, to put the Minuteman single silo, one-mile spacing at risk. They did two things. They fractionated their payload and went to high accuracy. After not doing anything for 15 years they have finally put our Minuteman at risk.

Of course, we are going to continue to upgrade our systems. You don't seem to object doing it to any other weapons system. The opposition exists in all other weapons systems as well. The Soviets are building a bigger tank with higher firepower. They are building bigger airplanes with higher fire power, faster speeds, and more capability. They do it all the time. We do too. It is the whole question of offense/defense. In the case of deterrence, you have one more thing.

Mr. Dicks. All I am telling you is that I think you are going to have a hard time selling this to Congress and to the American people because when you talk about putting all your eggs closely together in one basket, it doesn't have any kind of commonsense appeal to it.

You come here and tell me you want to increase your Trident submarines and put on a D–5 Trident missile and put it at sea where it is invulnerable, then I could throw in with you.

Dr. DeLauer. We are doing that.

Mr. Dicks. I understand that, but I just have serious questions about spending billions doing this when it just instinctively doesn't make any sense.

You think you had trouble selling MPS.

Dr. DeLauer. I didn't have any trouble.

Mr. Dicks. This is going to be five times as hard to sell to Congress.

Dr. DeLauer. Mr. Chairman, I didn't try to sell MPS. It is nonsurvivable. I didn't try to sell it at all, never did.

Mr. Dicks. The Air Force did. The Air Force had a better case on that one than they are going to have on this one and I can understand that the Air Force is lukewarm on this quite frankly.

Dr. DeLauer. They are not lukewarm.

Mr. Dicks. That is the impression I got when I asked this gentleman's personal opinion.

General McCarthy. If I conveyed that to you, I misrepresented my position.

Mr. Dicks. What is the Air Force position?

General McCarthy. The Air Force has not yet taken a position.

Mr. Dicks. That means it is lukewarm?

General McCarthy. No sir.

Dr. DeLauer. We don't know that answer yet.

General McCarthy. We have been working on a technical assessment that will be prepared for the Secretary of Defense and until that time we don't have a service position other than to say it is very promising.

LAUNCH UNDER ATTACK

Mr. Dicks. A criticism of Dense Pack which has been voiced is that is will force the United States to adopt a policy of launch under attack.

Previously, an attack on our widely dispersed ICBMs was to be assessed and analyzed to determine the nature and the size of the attack so that a response could be decided upon. With Dense Pack, all our land-based nuclear eggs would be in one basket. Consequently, there can be no doubt of the objective of an attack on Dense Pack, forcing us into a launch or lose position. Will Dense Pack remove the previously deliberate ambiguity in U.S. policy? Will it force us in to a launch under attack policy?

Dr. DeLauer. In the first place, the premise that spreading out of Minuteman alleviated the launch under attack option by its basing mode is fallacious. It had nothing to do with it. The survivability of Minuteman was based on the fact that the accuracy of the Soviet systems and the spacing of the silos dictated that it was not a viable attack option. That disappeared with the accuracy of the Soviet systems. They have got enough RVs to cover every single Minuteman hole twice over.

Mr. Dicks. They still don't know whether we are going to launch under warning.

Dr. DeLauer. Wait a minute. Let me finish my statement.

Mr. Dicks. Of course. I thought you were through.

Dr. DeLauer. All the Minuteman eggs are in the same basket. It just happens to be a basket over a wider geographical area. Geographical area alone does not provide survivability. Each missile doesn't know whether it is going to a particular geographical position. The fact that they are separated by two miles or by 1200 feet is immaterial. The point is that the Dense Pack provides a survivable capability because of its super hardness which is the real thing, and you maximize the capability of super hardness by putting them close together. That is the way you do it. You can attack the full Minuteman force at the present time with Soviet assets or you can attack a particular configuration like Dense Pack.

One good thing is, you attack Dense Pack with fewer missiles, so if you want to have a defensive system that works against it, the "threat tube" has been narrowed to where they can only put so many of their assets into that space at one time. Minuteman is spread out.

Mr. Dicks. Why is that?

Dr. DeLauer. Because that is where the target is. The target is a small geographical target. The "threat tube" is very narrow, and therefore they have to come down that threat tube. If they go out to the side, they don't get anything. It has all the stabilizing characteristics. The point is, can you indeed make the silos that hard? That is the engineering challenge, and we don't know that yet.

Mr. Dicks. I am just telling you some of the people who I have respect for, that have been involved in Minuteman, tell us they think you can't get much over two or three thousand psi.

Dr. DeLauer. We have demonstrated more than that.

General McCarthy. Mr. Dicks, if I can comment on the previous question there, the illogic in that question is you forget the fact that Minuteman still remains and that attack characterization against Minuteman still is there.

Dr. DeLauer. But it is a false premise to say Minuteman precludes launch under attack; that is nonsense.

Mr. Dicks. Haven't the Soviets solved the problem of vulnerability of their land-based missiles by adopting a policy of launch under attack?

Dr. DeLauer. Not that I know of. They have other things. They have also gone after mobility. They have also gone after hardness. They have done a lot of things for survivability. ———.

Mr. Dicks. I will put the other questions into the record. We have a hearing at 1:30.

[Clerk's note.—Questions submitted by Mr. Dicks and the answers thereto follow:]

Question. Haven't the Soviets solved the problem of the vulnerability of their land-based missiles by adopting a policy of launch under attack?

Answer. ———.

Question. Let us assume that 100 MX missiles were deployed in a Dense Pack basing mode, and the Soviets launched an attack, the initial wave of which destroyed 10 MXs. Would your policy be that the remaining 90 be fired as soon as possible before additional Soviet incoming warheads arrived?

Answer. It would be inappropriate to speculate on what the exact nature of a U.S. response to a Soviet nuclear attack might be. We are working toward the strengthening of deterrence by ensuring that MX basing will maximize the response options available to the National Command Authority.

Question. If that is the policy, do you consider the MX to be a "doomsday" system in that launching the remaining 90 MX missiles would unleash 900 warheads with a total yield up to 34,000 times the yield of the bomb at Hiroshima, depending on which MX warhead is deployed?

Answer. The MX missile is not a "doomsday" system, but a highly effective means of deterring war by providing the United States with the capability of holding at risk the full range of Soviet high value assets and thus removing the possibility that Soviet aggression could achieve any appreciable military or political gains.

[Clerk's note.—End of questions submitted by Mr. Dicks.]

Mr. Dicks. All I am telling you is that you are going to have to do a lot of sales work on this one, but you are very good at that. It just sounds crazy if you want my honest impression.

You are going to put all these missiles together. Anything I ever heard says that when you put everything together it makes it more vulnerable, not more secure, because the enemy can concentrate firepower on one area. I want to be around when they dig out of this 30 and 40 foot rubble. Maybe you can do it, but it sure doesn't sound very reasonable.

Dr. DeLauer. The reason for bringing them close together is you take advantage of the hardness, and at the same time you narrow the "threat tube" and provide the advantage to us on fraticide. When you spread them out, you haven't done anything to them. They just attack even if it is super hard. They just attack with their assets.

Mr. Addabbo. Please answer the rest of the questions for the record.

[Clerk's note.—Questions submitted by Mr. Addabbo and the answers thereto follow:]

UNDERLYING CONCEPTS

Question. The two basic ideas which underpin the Dense Pack concept are "superhardening" and "fratricide". "Superhardening" is the strengthening of a silo structure to withstand pressures of several thousand pounds per square inch. "Fratricide is the destruction of disabling of incoming warheads by the nuclear effects generated by a previous warhead's explosion. If either of these proves infeasible, the Dense Pack concept itself becomes infeasible. A white paper issued by the Department, dated July 19, 1982, states that work on these ideas was done during the 1970s, that a series of tests and analyses pointed to feasible superhard silo designs, and that intelligence studies concluded that fratricide effects were substantial and increase when silos are placed at closer intervals.

Can you tell us more specifically when during the 1970s this work was done? Was a substantial part done in the late 1970s, when problems with other basing modes became evident?

Answer. The subject of nuclear weapon fratricide became an issue in the 1969–1972 period, when Soviet hardening efforts resulted in the requirement to consider placing more than one weapon on a target. At this time, the number of hardened targets on either side was small, and hardening was measured in hundreds of psi. U.S. analyses of superhardened structures began in the early-mid 1970s, as did the U.S. silo-upgrade of existing Minuteman. By 1975, the hardness of both American and Soviet ICBM silos was measured in thousands of pounds per square inch. The numbers of weapons available to each side were increasing as well, and ICBM launch-scheduling with MIRV'd systems had to also be accounted for, so studies were begun by the AF Foreign Technology Division (FTD) to examine the Soviet's ability to target Minuteman 2-on-1. Because of Minuteman's ——— large spacing (3–5 miles), no appreciable fratricide effect was encountered once nominal precautions were taken. After President Carter's decision in 1979 to proceed with development of MX in the multiple protective shelter (MPS) basing mode, FTD undertook a similar study of the problems the Soviets would experience if they targeted multiple targets approximately one mile apart.

This target spacing was found to cause significant problems, ——— FTD recommended (Summer of 1981) that the MPS system be spaced at approximately ——— to further stress Soviet capabilities. As M-X/MPS was in the final stages of engineering development, and the hardening cost of some 4,600 shelters was prohibitive, the suggestion was not acted upon at that time.

From the above, it is clear that work has been underway in the areas of hardness and fratricide for some time. The President's decision of last October once again opened the door for further basing studies and in doing so served as a catalyst to bring information analyses. This, in turn, has resulted in development of the closely spaced basing concept.

Question. The tests and analyses related to superhard feasibility were reported by DNA. What were these tests?

Answer. The Defense Nuclear Agency has conducted a series of tests ———.

Question. Have superhard designs actually been subjected to nuclear blasts?

Answer. While the designs being considered have not been subjected to actual nuclear testing, we are confident that the information gained through the use of high-explosive simulators is both valid and applicable.

Question. Over what period of time were these analyses carried out?

Answer. Work began in the early 1970's and continued up to the present.

Question. How much more analysis do you foresee of superhard feasibility?

Answer. Even though the conduct of above-ground nuclear tests will be impossible under the terms of the Test-Ban Treaty, analyses indicate that hardness levels far in excess of those so far achieved are possible. We intend to continue with a vigorous program of advanced design, test-and-evaluation and analysis for the next several years to produce the hardest designs practical.

AF INTELLIGENCE STUDIES

Question. An Air Force paper dated July 20 states that "Air Force Intelligence studies on fratricide effects concluded that these effects were substantial, and increased significantly when silos were spaced at closer intervals."

[redacted]

Who specifically accomplished these studies? Why are they labeled "intelligence" studies?

Answer. The Air Force Systems Command's Foreign Technology Division (FTD), Wright-Patterson AFB, Ohio, accomplished the studies. The studies entailed various attack scenarios involving Soviet ICBMs against U.S. missile systems, and are labeled "intelligence" studies because FTD is an intelligence producing organization and used available intelligence data on Soviet ICBMs to develop the attack scenarios.

Question. What other agencies have reviewed and agreed with these Air Force studies?

Answer. Defense Intelligence Agency (DIA) and Central Intelligence Agency (CIA).

Question. Has the United States ever made specific tests for fratricide?

Answer. The United States has accomplished numerous underground tests of the radiation-specific damage mechanisms experienced by warheads, and these data are directly applicable to Closely Spaced Basing. The blast, g-loading, and debris effects have also been tested in experiments specifically designed to simulate the environments expected in a nuclear exchange. Results of these structural and radiation vulnerability studies point out a very difficult design and weapon-scheduling problem for the Soviet Union.

Question. Do we know what research the Soviets have done regarding fratricide effects? Do they concur in the conclusions we seemed to have reached by advancing the Dense Pack concept?

Answer. The Soviet Union has been well aware of the fratricide effects of nuclear weapons since at least ———.

Question. If the Soviet do not concur in the fratricide effects inherent in the Dense Pack concept, how can it be considered as a deterrent?

Answer. Because Soviet experience of fratricide phenomenology is roughly comparable to ours, it is unlikely that they would conclude, with any degree of certainty, that fratricide effects are substantially different than we understand them to be. However, if they were to come to this conclusion, the lack of certainty in the correctness of their view would most likely continue to deter aggression. The only means by which this uncertainty could be eliminated is full scale atmospheric testing—an activity banned by treaty.

Question. Is it fair at this point to characterize superhardening and fratricide as theories, rather than as concepts which are sufficiently well established to justify the expenditure of very large sums of money?

Answer. Superhardening is very real, as evidenced ——— by scale size tests we have conducted using high explosive simulators. Further, the Soviets have shown a very real willingness to spend huge sums of money ——— giving substance to their belief that superhardening has utility.

The fratricide vulnerability of nuclear weapons has also been well established through extensive test and design efforts. The United States intends to combine superhardening and close spacing to take maximum advantage of the benefits that accrue to such a marriage. We are confident that the uncertainty which will be created in the minds of potential attackers and the capability that will be gained serve not only to raise the threshold of deterrence, but will guarantee a substantial number of surviving MX missiles following an attack that will be available to retaliate in kind.

OPERATION FOLLOWING ATTACK

Question. Following an attack, surviving Dense Pack silos adjacent to those which have been destroyed will, if all goes well, be able to retaliate. Will those silos have debris piled on top of them?

Answer. Both the capsule and launcher are being designed to withstand nuclear blast effects and operate through as much as 20 feet of debris. Site location geology dictates the amount of debris expected, consequently this will weigh heavily in the site selection process. The mobile launcher containing the missile and canister will be raised, picking up the silo lid as they move upward. Once the mobile launcher has reached a predetermined height the upper launcher module containing missile support equipment, the capsule door and debris will be tilted off to one side. The missile will then be "cold launched" with first stage ignition occurring approximately 100 feet above the canister.

Question. What is the mechanism which will free the surviving missiles from their silos? Describe how it works, and how much weight it will have to lift?

Answer. The mobile launcher, as presently planned, is the mechanism used to place the missiles in a launch configuration within their silos. Once the mobile launcher is inserted and in position, it provides vertical stablilization, upper operational support equipment module and closure door tip-off, and missile launch.

Upon receipt of the launch command, vertical stabilizers are lowered from the bottom of the launcher to the capsule floor. An ordinance signal is then sent to the egress gas generator. Pressure builds up and raises the launcher until the upper end of the launcher contacts the capsule door. The contact shock is absorbed by a damper attached to the upper end of the launcher. Pressure continues to build in the launch egress gas generator to 250 psi which is sufficient to lift the 550,000 pound launcher, the 900,000 pound door and 20 feet of debris weighing 500,000 pounds. Once the launcher has elevated itself to a predetermined level above the surrounding terrain an ordinance signal is sent to the tip-off actuator gas generator. The actuator then extends to tip-over the upper module, capsule door, and debris, if present, to one side allowing an unobstructed path for missile launch.

Question. How long will it take to get a missile raised into firing position? What development and testing have been done on this type of mechanism?

Answer. Through the use of an air elevator the canisterized missile can be raised in approximately ———. There has been testing of the air elevator concept raising weights similar to the MX missile plus support equipment through as much as 50 feet of debris. Achieved speeds to date have resulted in times close to those mentioned. Work will continue to assure high confidence that the apparatus will work even in the most severe nuclear environments.

DENSE PACK CONTROL CENTERS

Question. The possibility exists that an attack would be carried out not on the missile silos themselves, but on the control centers.

Is it possible to negate the entire Dense Pack force with such an attack?

Answer. The planned command and control system for MX Closely Spaced Basing (CSB) will use two types of control centers; Underground Launch Control Centers (LCC) and Airborne Launch Control Centers (ALCC).

The LCCs would be buried at a depth where they would have substantial survivability. In fact, there are some location schemes that would enhance the fratricide protection of CSB missiles if the Soviets attempted to attack the LCCs.

The ALCC aircraft would be on strip alert during peacetime, and would take to the air on tactical warning where they would be extremely survivable because of their mobility.

Consequently, we believe that the enemy will not see a reasonable payoff in attempting to negate the CSB by attacking its command and control system. The enemy will, instead, be forced to attack the weapons system itself and incur the penalties that result from fratricide.

Question. What kind of protective measures do you envision?

Answer. The missile is designed to survive the effects of a nuclear attack environment during flyout through lofted airborne debris and other nuclear attack phenomena. The missile is also designed to be highly resistant to electromagnetic pulse (EMP) and radiation environments. Specifically, the missile can withstand high levels of gamma, x-ray and neutron bombardment. It can withstand heat in terms of calories per centimeter squared better than any previous ICBM. MX has been designed from the beginning to be able to withstand the nuclear environments that current missiles have little chance of surviving.

Question. Will Dense Pack require several control centers?

Answer. Yes, the Closely Spaced Basing mode plans include at least two Underground Launch Control Centers (LCC). Further, as currently envisioned, the system will use Airborne Launch Control Center (ALCC) aircraft. The number of required aircraft would be site dependent, because the ALCC must maintain radio connectivity with the current Post Attack Command and Control System (PACCS). Some potential sites are located at greater distances than others from present capability and may require that additional aircraft be provided to ensure adequate coverage.

SURVIVAL OF OUTGOING MX MISSILES

Question. Under the "fratricide" concept, an initial attack could be followed by a second attack only after a substantial time had elapsed, during which most of the effects of the first blasts would have mitigated. However, part way through this time, it would be theoretically possible to fire surviving MX's through the remaining debris and "nuclear excited" environment.

How will outgoing MX missiles survive if the theory holds that incoming Soviet RV's will not?

Answer. After the large pieces of debris settle out from a Soviet attack, M–X can be launched because the missile moves much more slowly than an incoming reentry vehicle and does not generate sufficient friction to damage the protective shroud on the front of the missile.

The incoming Soviet reentry vehicles, on the other hand, are moving at several times the speed of sound as they enter the atmosphere. Consequently, the dust can create sufficient friction to either destroy them or create assymetrical erosion that causes them to miss their intended targets.

Question: What kind of sensors will be required to determine that effects have subsided sufficiently to safely launch surviving MXs?

Answer. MX will require two types of sensors to safely launch. First, deployment area sensors will be used to determine that the dust and debris in and immediately above the Closely Spaced Basing (CSB) complex have abated anough to allow the MX to fly through.

Also, an attack assessment sensor will be needed to detect incoming enemy reentry vehicles directed against MX. Both sensor systems would have to give favorable readings before MX could be safely launched.

Question. Is it true that a "pathfinder missile" is being contemplated? What is that, and what are the costs and times required to develop such a missile?

Answer. The so called "pathfinder missile" is one alter-native solution for a deployment area sensor. The missile would be launched to determine if a "safe" dust and debris environment existed after M–X has been attacked. The missile would transmit information to a control center during its flight. If the missile achieved a safe altitude, a safe path would have been found for MX to launch.

The pathfinder concept provides limited information since it is basically only a GO–NO GO system. Other systems such as radar would provide more precise information and are preferred above the pathfinder. Cost estimates are not available as cost definition is in the process of being accomplished for deployment area sensors.

Question. What sort of sensors will such a "pathfinder missile" be required to carry? Do these exist, or will they have to be developed?

Answer. The so called "pathfinder" missile is one concept being considered for the MX deployment area sensor system. This is not a preferred concept since it only provides GO–NO GO information by transmitting a signal to the control center as it proceeds through programmed flight.

While pathfinder missiles do not presently reside in our inventory, it is conceivable that existing missiles could be modified or M–X missiles themselves could perform the function.

Question. One of the criticisms raised against Dense Pack is that it can potentially be defeated by so-called "pin down". Under this theory, a succession of nuclear blasts over a Dense Pack field could prevent launching MX missiles between attacks on silos.

How seriously do you view the "pin-down" problem?

How do you plan to deal with this problem?

Answer. Pin-down is a high risk, low confidence tactic that the Soviets could use against CSB only at the expense of seriously degrading their attack against the other U.S. strategic forces. Synergism between MX, Minuteman, and the bomber forces ensures that the Soviets must be prepared to accept the full responsive force of at least one of these, regardless of tactics like pin-down, bomber escape route barrages etc. Even if the Soviets were to plan a pin-down tactic, they would have to enforce a lengthy, steady, uninterrupted attack, while MX forces could escape if the pin-down were interrupted for a short time. The cost in weapons is very high, since a Soviet pin-down attempt could use with no Soviet confidence that any MX missiles would be destroyed. So while we view pin-down seriously, we do not consider it a viable, effective option for the Soviets.

DENSE PACK COSTS

Question. The costs of Dense Pack are of course a matter of interest. While we understand that estimates at this point are necessarily preliminary, it will nevertheless be helpful to know their approximate magnitude. What will Dense Pack R&D cost, stated in base-year and then-year dollars?

Answer. As a number of issues affecting cost have yet to be resolved, we believe it to be premature for the Air Force to advertise cost even with the caveat of "preliminary estimates". In too many cases preliminary estimates become "locked in" before a full system can be defined and properly costed. Cost estimates will be provided once the issues mentioned have been resolved.

Question. What will Dense Pack procurement cost, stated in base year and then-year dollars?

Answer. We are still estimating the procurement cost of the Closely Spaced Basing mode.

Question. What will Dense Pack military construction cost, stated in base-year and then-year dollars?

Answer. Estimates for all elements of Closely Spaced Basing are being refined and will be provided to the Congress if the President selects CSB as the permanent basing mode for MX.

ACHIEVING THE MX IOC WITH DENSE PACK

Question. The IOC for MX under the MPS basing mode was late 1986. A late start on designing and constructing Dense Pack would appear to place that IOC in question. Do you still hope to achieve a 1986 IOC?

Answer. With an Administration decision to deploy MX in the Closely Spaced Basing mode this Fall and an early fiscal year 1983 start in full scale development, the MX IOC can still be achieved by late 1986.

Question. What portion of a Dense Pack field could be operational by 1986?

Answer. The IOC of Closely Spaced Basing of MX is planned as late 1986 and we would expect that 10 MX missiles would be operational at that time.

[redacted]

Question. How would command and control be exercised at IOC? Would it differ from the eventual method for exercising command and control?

Answer. We are still defining specific command and control for the MX system. We will have sufficient command and control to match the survivability of the force deployed at IOC.

FISCAL YEAR 1983 BUDGET AND DENSE PACK

Question. The fiscal year 1983 budget request was formulated and presented to the Congress long before the Dense Pack scheme was proposed. The request therefore does not reflect costs associated with Dense Pack, nor does usual justification material submitted with the request address that concept. It does reflect $715 million for R&D on interim basing in Minuteman silos, which we are informed is "on the back burner."

How much R&D funding is now estimated to be needed in fiscal year 83 to pursue Dense Pack?

How was the estimate derived, and by whom?

Answer. We are still in the process of defining the total Closely Spaced Basing requirements. Such information will be provided once recommendations for permanent basing have been finalized and the President has arrived at a decision.

Our initial estimates for fiscal year 1983 on CSB R&D are higher than the $715M identified for the interim silo deployment. As a consequence, we are assessing the impact of recent Authorization actions to determine whether approved funds will be adequate to support accomplishment of the required tasks.

Cost estimates are derived by personnel at the Ballistic Missile Office mainly using parametric cost modeling and historical data from previous ICBM programs.

Question. How much of the $715 million is now intended to be spent on work associated with Minuteman silo basing for MX?

Answer. With a permanent basing decision this fall as presently planned, then none of the $715 million intended originally for Minuteman silo basing would be used for that purpose. The funds would, instead, be expended on development of the permanent basing mode.

ADDITIONS TO DENSE PACK

Question. Two possible additions to the Dense Pack concept have been suggested as defenses against future threats. One of these is the deployment of a Ballistic Missile Defense (BMD). The other is deceptive basing, under which many more silos than missiles would be constructed, and missiles would be periodically shifted among them.

When do you anticipate that decisions on these two additions would have to be made?

Answer. Decisions on modifications to the initial Closely Spaced Basing deployment would be made based upon the development of the Soviet responsive threat. If Soviet actions are such that their reaction to CSB threatens its effectiveness, any of a number of U.S. counterresponses including deception and defense would be considered. As Soviet behavior is not predictable, however, the timing of such decisions cannot be determined at this time.

Question. To what extent does one of these concepts impact on the other? For example, would a decision to use deceptive basing impact on the size, nature and method of operation of a BMD system.

Answer. There are interrelationships between candidate additions to the basic CSB system. For the example mentioned in your question, BMD concepts employed would differ in size, nature, and method if deceptive basing were to be made a part of the deployment plan. This is because a larger land area would be involved and defense would be able to provide much more leverage since it could capitalize on preferential defense techniques. Conversely, it is conceivable that deception could be employed in the absence of defense and vice versa. The configuration of any particular additions would, of course, be dependent upon the nature of the threat we were trying to counter and the goals we hoped to accomplish.

Question. What do you anticipate the added costs would be to add deceptive basing to Dense Pack? To add a BMD system?

Answer. We have not defined deception and defense concepts in sufficient detail as of the present to be able to reasonably predict the costs of such additions. Of course, costs could vary greatly depending upon the approaches ultimately chosen. As previously stated, decisions to proceed with enhancements are dependent upon Soviet reactions to the basic CSB deployment.

Question. Will deployment of a BMD system to defend Dense Pack require abrogation of the ABM treaty? Does the Department view such a possibility as a serious matter?

Answer. The effects of ballistic missile defense over a variety of MX basing modes is being examined by the Department of the Army. Until such time as the MX permanent basing mode is selected, and extensive studies can be performed for the selected basing mode, an assessment of the impact of such a system on the ABM Treaty cannot be made.

DENSE PACK AS A SALT II "BREAK OUT"

Question. The Dense Pack concept has raised concerns that its silos can be considered as additional launchers rather than as temporary shelters. Therefore, the Soviet Union may be prompted to view Dense Pack as a Salt II "break out" and respond by proliferating their own ICBM's. Last May, when this Committee asked you whether these concerns were valid, the response was that an answer could not be given pending arrival of White House guidance.

What is your answer now? Are these concerns valid?

Answer. We are still considering variations in the basing concept known as Closely Spaced Basing or Dense Pack. Until a decision is made on the permanent basing mode for MX, any answer to your question would be speculative. The President has committed himself to submit his plan for basing MX to the Congress by 1 December 1982.

Question. The same response was given to our question whether Dense Pack would have any adverse impact on the President's stated goal of reducing strategic nuclear weapons. What is your answer now? Will it have an adverse impact?

Answer. The deployment of MX will not interfere with the President's goal of reducing strategic nuclear weapons. The MX is an essential element of the President's strategic modernization program to provide a strategic deterrent force with improved capability and to demonstrate US resolve to redress the asymmetry in the strategic force balance. The improved deterrent force provides an incentive for the Soviets to conduct meaningful negotiations in strategic arms reductions and, as such, substantially contributes to the U.S. negotiating position.

Question. What effect has the Dense Pack proposal had on the START talks?

Answer. MX in Closely Spaced Basing has provided an incentive for the Soviets to conduct meaningful arms reductions negotiations. Without a demonstrated US resolve to take the necessary steps to redress the growing asymmetry in the strategic force balance, the Soviet Union could not be expected to seek arms reductions which would significantly reduce the threat of nuclear war.

Question. Can you tell us how verification of the number of MX's would be done under the Dense Pack concept?

Answer. It is premature at this point to discuss what verification techniques would be used for MX in Closely Spaced Basing (CSB) or Dense Pack, as you refer to it, since the decision on the final form of basing has yet to be made. However, verification measures proposed by the U.S. in START could be used, once they have been decided upon.

LEGAL AND POLITICAL PROBLEMS

Question. A major obstacle to the now-abandoned MPS basing mode was the legal and political problems which it engendered. The Air Force mounted an unsuccessful public relations campaign to counter that opposition. It also spent many millions of dollars on environmental impact studies.

Do you for see public opposition to Dense Pack?

Answer. The President has not yet selected Dense Pack, now called Closely Spaced Basing (CSB), as the basing mode for MX. CSB is only one of the permanent basing options under consideration. It is anticipated he will make a decision and notify Congress by 1 December 1982. However, there are some people opposed to MX in general and can be expected to oppose its deployment regardless of the basing mode selected.

Question. Do you forsee challenges based on environmental grounds.

Answer. It is much too early to speculate on whether there will be challenges based on environmental grounds to the deployment of MX. The President has not yet made a decision on a permanent basing mode. It is anticipated he will do so and notify Congress by 1 December 1982.

Question. Will Dense Pack require an EIS?

Answer. The Air Force has begun an environmental impact analysis process and will comply with the National Environmental Policy Act.

Question. Do you foresee lawsuits intended to stop Dense Pack?

Answer. It is much too early to speculate whether the deployment of MX will result in lawsuits. Once the President has selected the permanent basing mode for MX, a better view of this situation will be possible.

PROBLEMS AT KWAJALEIN

Question. The missile test range on Kwajalein is the subject of a dispute between the United States and the Marshall Islands. Since June 19, landowners on the atoll have been squatting in restricted areas, reportedly blocking use of the test site.

What is the nature of this dispute?

Is the use of the test site in fact being blocked?

Answer. Reference first question—Local landowners oppose the outcome of recently concluded negotiations providing for 50 years use of the Kwajalein Missile Range. The essence of the opposition is a desire for higher payments.

Answer. Reference second question—To date, range operations have not been affected.

Question. The first test flight of the MX is scheduled for January, 1983. What are your plans if this problem is not resolved by that time?

Answer. We do not anticipate that the current dispute will affect the first flight of MX.

SOVIET REACTION TO DENSE PACK

Question. Of course, whenever we deploy a new system, the Soviets work on countermeasures to it. It appears that the logical Soviet response to Dense Pack would be to emphasize R&D on their warhead, in order to shorten the timeframe in which the blast, radiation, etc., from a warhead would continue to cause "fratricide" against other incoming warheads.

1. Does such a response by the Soviets seem likely?
2. Would such R&D cause the Soviets to spend more or less than we will on a Dense Pack system?
3. If the Soviets were able to shorten the time from in which "fratricide" would take place, wouldn't there be a serious threat to the Dense Pack basing mode, in that they may be able to fire incoming warheads at relatively short intervals, thus precluding our ability to launch the surviving MXs?

[CLERK'S NOTE.—The information was not received in time to be printed in this hearing volume.]

FRATRICIDE OF U.S. WARHEADS

Questioning. Presumably, the Department is sufficiently concerned about fratricide that you are examining its effects on our ability to successfully attack targets in the Soviet Union. Does current U.S. targeting strategy call for attacking major Soviet targets with more then one nuclear warhead?

Answer. Since the late 1960s, U.S. targeting and attack planning has considered and properly accommodated the problem of fratricide, not only for the first wave attack on adjacent targets but for possible multiple round attack on the same target.

Question. Does such a strategy conflict with concerns over fratricide?

Answer. No. Most Soviet targets have sufficient geographical separation to make fratricide avoidance a minor, manageable problem for U.S. targeting and attack planning. Through a combination of geographic separation and/or controlled arrival timing, planning for fratricide avoidance has been no problem for us. What should be noted, however, is the Soviet targets are widely separated in relation to planned MX spacing in CSB. The CSB concept is designed specifically to aggravate the enemy's fratricide problem, targets in the USSR are not.

Question. Is the Department reexamining its targeting strategy to mitigate the effects of fratricide?

Answer. No. As noted above, we feel that our planning techniques allow us to avoid the fratricide effects. Thus, no reexamining of our targeting is necessary.

STATUS OF DENSE PACK

Question. Mr. Secretary, can you tell us at this time whether the closely spaced basing plan, or Dense Pack, is being considered as the interim basing plan for the MX missile or as the permanent basing plan.

Answer. Closely Spaced Basing is a concept for permanently basing the MX missile.

Question. Does this mean that the pending proposal to put MX missiles in Minuteman silos is no longer being pursued?

Answer. We have completed the System Design Review of the MX in Minuteman silos. While no further action is planned, a program of MX in Minuteman silos could be implemented at any time in the future.

Question. Can you tell us how the costs compare between Dense Pack and the use of Minuteman silos?

Answer. Plans for Closely Spaced Basing (CSB) have not been finalized, however, it would undoubtedly cost more in the near term to deploy MX in CSB than to place the missile in existing Minuteman silos. This is because CSB would involve deployment of the missiles in superhardened capsules spaced closely together. Not only would the construction of these capsules be much more involved than the modifications planned for the Minuteman silos, but other portions of the CSB system would require much more extensive treatment as well. Command, control and communications development is a prominent example. Finally, plans called for deployment of only 40 MX in existing Minuteman silos while CSB would result in the deployment of 100 missels in permanent basing.

In the longer term CSB deployment would provide the cheaper solution. This is because deployment in Minuteman silos was judged to be an interim measure to gain the capability of the MX missile as soon as possible pending determination of a permanent basing mode. CSB allows achievement of permanent basing just as quickly as the interim measures would have, permitting avoidance of interim basing costs.

[redacted]

Question. Are we putting ourselves in a position of developing both an expensive interim plan and a permanent plan that is going to far exceed the cost of the multiple protective shelter system previously proposed?

Answer. The basic CSB deployment is not an interim, but a permanent basing plan that is believed to be reasonably survivable into the 1990's. Of course, the Soviets may take action to counter CSB, and if they do we have identified several paths that could be followed to complicate things for them. This pattern has been common in the evolution of all types of weapons systems. We are not dealing with a static environment that lends itself to "ultimate" solutions, but rather a dynamic relationship consisting of move and countermove. It is in this context that the CSB growth options must be considered.

As for cost, we expect the basic CSB deployment to cost substantially less than the cost of the multiple protective shelter system previously proposed. If growth options are added later, their costs should be considered in light of the new threat to be countered and the costs of alternative means of meeting that threat.

Question. If in December, 1982, Dense Pack is not chosen as an interim or permanent basing mode, will any alternatives be announced at this time?

Answer. As the President has yet to be provided with recommendations for permanent basing, it would be inappropriate to speculate on what his options might be.

[CLERK'S NOTE.—End of questions submitted by Mr. Addabbo.]

Mr. ADDABBO. The hearing is adjourned until 1:30.

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TUESDAY, AUGUST 17, 1982.

PROPOSED BILL LANGUAGE CHANGES AND GENERAL PROVISIONS

WITNESS

TOM G. MORGAN, OFFICE OF THE ASSISTANT GENERAL COUNSEL FOR FISCAL MATTERS, DEPARTMENT OF DEFENSE

CHAIRMAN'S OPENING STATEMENT

Mr. ADDABBO. The fiscal year 1983 budget document recommends various changes in bill language and general provisions. Changes are recommended each year to update the Defense Appropriations bill and many of the changes are minor technical adjustments, while others are extremely important and warrant close examination.

The witness today is Mr. Tom Morgan from the Office of Assistant General Counsel for Fiscal Matters. Mr. Morgan, it is a pleasure to have you before the committee today. We have your prepared statement, which we will place in the record.

In the interest of time, we would ask that you briefly summarize the statement, and we will then begin with questions.

OPENING COMMENTS OF MR. TOM MORGAN

Mr. MORGAN. As you are aware, my statement concerns all of the changes that have been recommended in the President's budget for fiscal year 1983. Most of these provisions are somewhat administrative in nature in that they relate to language which was inserted in the fiscal year 1982 bill and related to specific programs and activities covered by that bill. Hence, they do not necessarily need to be repeated in fiscal year 1983.

I would if I could like to highlight some of the more significant changes that have been recommended in the President's budget for fiscal year 1983. I first would like to discuss the language which has been added to the Operation and Maintenance Defense Agency appropriation dealing with the Commander-in-Chief Readiness Fund. This is new language which is designed to afford the commanders-in-chief of the unified and specified commands with authority to acquire items which are needed to improve their force readiness which have not been included in regular operation and maintenance appropriations.

The Department believes that this kind of authority is extremely important given the diverse responsibilities of these individuals. This fund would be controlled by the Chairman of the Joint Chiefs of Staff and expenditures would be made on his approval or by individuals designated by him.

The second change is one which has appeared in several prior budget requests, and this concerns the appropriation for shipbuilding and conversion for the Navy. Two changes to this appropriation which we are again requesting are that the funds be appropriated on a lump sum basis rather than a legally subsidized one and that the period of availability of that appropriation be extended from 5 to 7 years.

We believe that a lump sum appropriation would permit execution of the program in an efficient and appropriate manner and that even though we would not have legally subdivided appropriations that there would still be the requisite degree of Congressional control and supervision over that appropriation.

With respect to the extension of the period of availability of the appropriation, we believe that that extension more readily reflects the period of time it takes today to complete the construction of the ships covered by that appropriation.

The third provision which I would like to address are the two provisions relating to the Special Defense Acquisition Fund. We are requesting language in the fiscal year 1983 budget request which would permit the crediting to the fund of the proceeds from the sales from stocks which are not intended to be replaced by the Department. This is the same provision, the same type of authority, which we sought in connection with the supplemental for fiscal year 1982.

The Department feels that by permitting these funds to be credited to the Special Defense Acquisition Fund we would be able to more readily build the fund up to its maximum authorized amount and be able to use the fund in a more expeditious manner.

Similarly, the provision relating to the obligation of funds that have been credited to the Defense Acquisition Fund would give us the requisite authority to make expenditures from the fund.

And the fourth request which I would like to highlight relates to the transportation of POMCUS sets 5 and 6 to Europe. I understand that the Conference Committee on the authorization bill has approved an authorization of $15 million for the transportation of this equipment to Europe provided that such transportation has no impact on National Guard and Reserve Readiness.

We understand that this is of concern to the Congress and believe that it is important to transport the equipment designated for POMCUS sets 5 and 6.

[The statement follows:]

STATEMENT OF TOM MORGAN, OFFICE OF ASSISTANT GENERAL COUNSEL (FISCAL MATTERS) OF THE DEPARTMENT OF DEFENSE BEFORE THE SUBCOMMITTEE ON DEPARTMENT OF DEFENSE APPROPRIATIONS OF THE HOUSE COMMITTEE ON APPROPRIATIONS IN CONNECTION WITH LANGUAGE CHANGES FOR THE FISCAL YEAR 1983 APPROPRIATIONS REQUESTED FOR THE DEPARTMENT OF DEFENSE:

Mr. Chairman and Members of the Committee:

I am pleased to be here today to present this statement setting forth the Department of Defense position on the proposed language changes for the Department of Defense Appropriation Act, 1983. This statement covers all language changes submitted in the President's Budget for Fiscal Year 1983. I will discuss the language changes for each appropriation heading and general provision in the order in which they appear in the Budget Appendix.

Except for physical security vehicles which are provided for in the Other Procurement, Army appropriation, I will not discuss the new numbers pertaining to the purchase of passenger carrying vehicles. Similarly, with the exception of the Shipbuilding and Conversion, Navy appropriation, as the period of availability of multi-year appropriations has been maintained, I have not addressed each account separately. I can cover them by stating that the period of availability has been advanced one year beyond the date of the comparable appropriations in the Fiscal Year 1982 Department of Defense Appropriation Act.

The language changes requested for Fiscal Year 1983 are as follows:

APPROPRIATION ACCOUNT LANGUAGE CHANGES

RESERVE PERSONNEL, NAVY (Page I-G5)

The language providing for a transfer of Fiscal Year 1982 funds to the Fiscal Year 1979 appropriation, "Reserve Personnel, Navy" for liquidation of obligations incurred in that account, is deleted as no longer necessary.

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OPERATION AND MAINTENANCE, NAVY (Page I-G10)

The language providing that not less than $59 million of this appropriation shall be available for payments in support of the LEASAT program in accordance with the Aide Memoire concerning LEASAT, dated January 5, 1981, is deleted. In its place, language has been substituted which simply specifies that the appropriation is available for making payments under the Aide Memoire.

OPERATION AND MAINTENANCE, AIR FORCE (Page I-G12)

The language providing that not less than $29 million of this appropriation shall be available only for the installation of modification kits in KC-135 aircraft is deleted.

OPERATION AND MAINTENANCE, DEFENSE AGENCIES (Page I-G13)

Language has been added to this appropriation which provides that not to exceed $100 million of the appropriation can be used by Commanders-in-Chief of Unified and Specified commands for expenses to improve force readiness, war fighting effectiveness and efficiency of operations. Such funds will be expended on the approval or authority of the Chairman of the Joint Chiefs of Staff and will be used for expenditures for purposes otherwise specifically authorized in operation and maintenance and procurement appropriations of the Department of Defense. This authority will permit such commanders to meet unanticipated needs arising in their operations.

AIRCRAFT PROCUREMENT, ARMY (Page I-G22)

The proviso that requires written notification to the Committees on Armed Services and Appropriations of the House and Senate of a proposed multi-year contract for the UH-60A Black Hawk aircraft and a delay of 45 days following such notification before a multi-year contract for such aircraft may be awarded is deleted as no longer necessary.

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PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY (Page I-G24)

The provision providing that only $1.9 million of this appropriation shall be available only for the continued evaluation and testing of the 9mm handgun is deleted.

OTHER PROCUREMENT, ARMY (Page I-G26)

In this section the provision for the procurement of not to exceed 14 vehicles required for physical security for personnel without regard to price limitations, but not to exceed $100,000 per vehicle, is proposed for deletion. This deletion is the result of an administrative error and only the numbers involved, not the authority for such purchase should have been deleted. Accordingly, we are in favor of retaining the language granting the authority for such purchases, but the number of vehicles should be changed to 20 and the dollar limitation should be changed to $110,000.

[ARMY NATIONAL GUARD EQUIPMENT] (Page I-G27)

This appropriation, providing $50 million for Army National Guard Equipment is deleted as no longer necessary.

AIRCRAFT PROCUREMENT, NAVY (Page I-G28)

The provision providing that only $37 million of this appropriation shall be available only for the purchase of C-2 aircraft under a multi-year contract is deleted as no longer necessary.

SHIPBUILDING AND CONVERSION, NAVY (Page I-G30)

Six changes have been made in this appropriation. A lump-sum appropriation, rather than a legally subdivided one, has been requested; the period of availability of the appropriation has been requested to be extended from five to seven years; and the provisions relating to acquisition of ships for the Coast Guard; transfers of funds from other appropriations; reductions in other appropriations for inflation offsets; and extension of the period of availability of the "Shipbuilding and Conversion, Navy" appropriation that would have expired for obligation on September 30, 1981, have been deleted.

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A lump-sum appropriation is requested rather than a subdivided account. Such an appropriation provides the opportunity to execute the shipbuilding program with the necessary flexibility to respond to cost variations over the period of availability of the appropriation that may be different from those anticipated at the time the estimates for appropriations were prepared. Reprogramming procedures and the understandings with the Appropriations Committees will assure that the Committees will be able to exercise their oversight responsibilities should it become necessary to fund specific ship programs differently than originally anticipated.

We have requested that the period of availability of the appropriation be extended from five to seven years because it more accurately reflects the time that it takes to fully execute the shipbuilding programs. The five-year period of availability may have been sufficient when the appropriation was changed from a no-year appropriation to a multi-year one in Fiscal Year 1971. Today, however, the complexity of the shipbuilding process has evolved to the point where funds required to construct ships cannot be totally obligated within the five-year period of availability. A current review of the Fiscal Year 1983 program indicates that none of the ships will be delivered within the five-year period. Accordingly, extension of the appropriation to seven years is necessary in order to permit the Department to execute the program and to reflect the actual time that it will take to build the ships contained in the Fiscal Year 1983 request.

Finally, the provisions relating to ships for the Coast Guard, transfers of funds, reductions for inflation offsets, and extension of the period of availability of one of the "Shipbuilding and Conversion, Navy" appropriations, are deleted as no longer necessary.

AIRCRAFT PROCUREMENT, AIR FORCE (Pages I-G33-34)

Five changes are made in this appropriation. The language providing $102.8 million for a classified program; the language relating to procurement of F-16 aircraft under a multi-year contract; the language requiring Presidential certification concerning the B-1 bomber program; the language providing that $56 million shall be available only for the procurement of B-707 aircraft for engines and parts to reengine the KC-135 aircraft; and the language providing for a transfer from the "Aircraft Procurement, Air Force, 1981/1983" appropriation are all deleted as no longer necessary.

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MISSILE PROCUREMENT, AIR FORCE (Page I-G35)

The language providing that $624.4 million of the appropriation shall be available only for a classified program is deleted as no longer necessary.

OTHER PROCUREMENT, AIR FORCE (Page I-G36)

The language providing for a transfer of funds from the "Other Procurement, Air Force, 1981/1983" appropriation and providing $67.2 million only for procurement of AN/TRC-170 radios under a multi-year contract is deleted as no longer necessary.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

AIR FORCE (Page I-G42)

The language providing that $334 million of this appropriation shall be available only for Research and Development related to initial deployment of the MX missile in nonsuperhardened silos is deleted as no longer necessary.

ARMY CONVENTIONAL AMMUNITION WORKING CAPITAL FUND (Page I-G69)

Language is added to reflect the fact that appropriations are being requested for the Fund for Fiscal Year 1983.

GENERAL PROVISIONS--LANGUAGE CHANGES

In discussing these provisions, I will refer to both the Section numbers as they appear in the Fiscal Year 1982 Appropriation Act and as requested for Fiscal Year 1983 in the case of any sections that have been renumbered.

SECTION 708--AVAILABILITY OF APPROPRIATIONS (Page I-G73)

Two new subsections are added to this provision. Subsection (o) provides appropriations may be used "for payments for depot maintenance contracts for twelve months

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beginning at any time during the fiscal year." This provision would provide a solution, with funding, to the problem addressed by the General Accounting Office in its review of the Air Force Industrial Fund. Subsection (m) provides "for reimbursement for costs incurred for uranium enrichment for naval reactors." This provision will permit the Department to pay for expenses associated with the uranium enrichment program which was once funded by the Department of Energy.

SECTION 709--AVAILABILITY OF APPROPRIATIONS (Page I-G73)

A new subsection (k) has been added to this section, which also concerns the availability of appropriations, which provides that funds are available for "carrying out section 10 of the Act of September 23, 1950, as amended," which concerns schools located on military installations. It is added to reflect the decision that the Department of Defense should pay the costs associated with such schools.

SECTION 716--SHIPMENT OF HOUSEHOLD GOODS (Page I-G74)

The limitation on the number of pounds of household goods which may be transported at Government expense is increased from 13,500 pounds to 16,000 pounds. This limitation was last increased in 1967. The current limitation is insufficient to cover many of the household goods shipments of military personnel.

SECTION 719--CONVERSION FROM COAL TO OIL (Page I-G74)

The proviso prohibiting the use of the authority to accept real property and services in accordance with mutual defense agreements or occupational arrangements to convert heating plants from coal to oil at defense facilities in Europe is deleted in order to permit such conversions when economies and efficiencies can be realized.

SECTION 723--SPECIALTY METALS AND TEST LABOR

SURPLUS AREA SET ASIDES (Page I-G74)

Two changes are made to this provision. One would restore to the section provisions concerning "specialty metals" and "chemical warfare protective clothing." The other would delete language providing for a labor surplus area set aside test.

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[redacted]

The proviso that is being restored was deleted in last year's Act. It permits the purchase of specialty metals and chemical warfare protective clothing produced outside the United States if it is determined necessary to do so either (1) to comply with agreements with foreign governments for the purpose of offsetting sales made by the United States or United States firms under approved programs serving defense requirements or (2) to further standardization and interoperability of equipment within NATO. The proviso is identical to the one which has been contained in the section since 1978. The Department believes that restoration of this proviso is of great importance to our interests with respect to the North Atlantic Alliance.

The provisions of this section contained in the "Maybank Amendment" which prohibit the payment of a price differential for the purpose of relieving economic dislocations in labor surplus areas are deleted because these provisions were made permanent by section 913 of the Department of Defense Authorization Act, 1982.

SECTION 728--LEGISLATIVE AFFAIRS LIMITATION (Page I-G74)

The limitation of 7.5 million dollars on the amount that may be spent on legislative affairs activities of the Department is increased to 9.1 million dollars to reflect increased pay costs and inflation.

[SECTION 732--REAL PROPERTY MAINTENANCE AND REPAIR] (Page I-G75)

This provision relating to minor construction activities is deleted because it is essentially duplicative of permanent statutory authority contained in section 2674 of title 10 and the DoD Directive cited in this provision has been changed.

SECTION [733] 732--TRANSFER AUTHORITY (Page I-G75)

It is requested that this section be changed to permit the transfer of funds from prior fiscal years into fiscal year 1983 appropriations and that the amount that may be transferred be increased to $1,000,000,000.

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The current language restricts the ability of the Department to effect transfers between and among appropriations made in prior years. This restriction severely limits the Department's management flexibilities in dealing with its diverse and complex functions in a constantly changing environment. To effectively administer a Department of this size and complexity it is necessary to have the flexibility to move funds between all of the appropriations that are available to the Department. The increase in the dollar amount available for transfer is very modest in comparison to the total appropriations made available to the Department. The increased flexibility that would be available to the Department if the language of this section is changed as well as the increase in the dollar amount available for transfer would allow the Department to have sufficiently broad transfer authority for prudent financial management of the Department.

SECTION [735]--FEDERAL EMPLOYEES COMPENSATION FUND (Page I-G75)

This section, which places a limitation on the amount of Defense funds that can be paid to the fund, is proposed for deletion so that the Department may make its full payment in Fiscal Year 1983.

SECTION [737]--CONVERSION FROM COAL TO OIL (Page I-G75)

This section is recommended for deletion so that the Department will be able to make such conversions where economies and efficiencies will result.

If this section section is eliminated, the Army, which is the service most affected by the provision, will be able to convert many small coal burners located in Germany. These units were installed prior to World War II and are not as efficient as oil-fired burners would be. Operation and maintenance costs are high. Additionally, coal transportation costs are high because the boilers are located in remote areas. This means that, in addition to paying for transportation of the coal up the Rhine to distribution centers, we must also pay for shipment by rail or truck. While the Department is aware of the problems concerning price and, sometimes, the availability of oil, the cost of coal, transportation, and labor is also escalating. The Department is not planning a complete or even a large conversion program. Instead, it will consider selected conversions, primarily in

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those areas that are far from the major oil depots and where existing coal-fired equipment fails and requires replacement. Facilities near the coal depots would receive full consideration for the continued use of coal.

SECTION [738] 735--EXPERIMENTAL MEDICAL TREATMENT (Page I-G75)

This section prohibits the use of Defense funds for any research involving uninformed or nonvoluntary human beings. A proviso is added to this provision to permit an exception in cases of beneficial treatment and to permit another to consent if a patient is incapable of doing so. This section clarifies the fact that such patients do not fall within the otherwise valid prohibition contained in this section.

SECTION [742] 739--CHAMPUS (Page I-G75)

Two changes are made to this section. That portion of the section authorizing payments under the Civilian Health and Medical Program of the Uniformed Services for a test program during Fiscal Year 1982 involving payments to certified clinical social workers is deleted because the language has served its purpose of permitting a test and further payments should not be made until the results of the test are known. A provision is added to the section to permit payments under the Act for covered care received prior to the effective date of the Act in cases where changes in availability of funds are made in the Act. This will permit payment of bills received after the effective date of the Act for care which was authorized at the time it was received.

SECTION [747]--PUBLIC AFFAIRS LIMITATION (Page I-G76)

The limitation on the amount of funds which may be used for public affairs is increased from $28 million to $35 million. An increase from $28 million to $31 million was requested in connection with the supplemental for Fiscal Year 1982 to reflect that $31 million was actually appropriated for public affairs activities for Fiscal Year 1982. The increase from $31 million to $35 million requested for Fiscal Year 1983 is to reflect increased pay costs and inflation.

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SECTION [748] 745--DEPOSIT OF FREE ASSETS IN MISCELLANEOUS RECEIPTS (Page I-G76)

A provision is added to this section which would provide that funds received as proceeds of sales under the Arms Export Control Act of items from inventory not intended to be replaced would be deposited in the Special Defense Acquisition Fund which was authorized under the International Security and Development Cooperation Act of 1981. Funds would be credited to the extent authorized by the law governing the Fund and, to the extent not so credited, would be deposited in the miscellaneous receipts of the Treasury. If this provision is enacted it will permit an earlier and more effective utilization of the Fund for the purposes for which it was enacted.

SECTION [749] 746--SENIOR ROTC (Page I-G76)

This section, which prohibits the use of funds for senior ROTC units that do not meet minimal enrollment standards, has been updated by changing the determinative date from September 30, 1981, to September 30, 1982.

SECTION [754] 751--MORALE, WELFARE AND RECREATION ACTIVITIES SUPPORT (Page I-G76)

The citation to the date of DoD Instruction 7000.12 is updated to reflect that the Instruction was revised and reissued on September 4, 1980. There were no substantive changes made to the enclosures to the Instruction which are cited in this provision.

SECTION [755]--DEFENSE PRODUCTION GUARANTEES (Page I-G76)

This section, providing authority to guarantee loans under the Defense Production Act of 1950, is deleted. The Administration, as part of a review of a number of loan guarantee programs, has decided to limit this type of financing.

SECTION [760]--SURCHARGE ON INSIGNIA (Page I-G76)

This section, which imposes a surcharge on insignia that are purchased for resale is proposed for deletion. While the

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provision will result in a reduction in operation and maintenance expenses it will result in an increase in military personnel appropriation expenditures because the cost of insignia is included in computing the monetary clothing allowance paid to enlisted personnel.

SECTION [761]--AUDIT RESOLUTION (Page I-G76)

This section, which requires resolution by September 30, 1981, of all unresolved audits pending at the time of enactment of the Fiscal Year 1982 Act and resolution of all audits arising after enactment within 6 months after completion of the initial audit report is deleted. The Department is committed to resolution of audits and the requirements of this provision are contained in DoD Directive 5000.41, March 15, 1982.

SECTION [762]--ANTICIPATORY POSSESSION CLAIMS (Page I-G76)

This section limits payments for anticipatory possession compensation claims to those listed in the 1973 agreement, called the Global Agreement, with the Federal Republic of Germany. The United States is currently negotiating with Germany concerning these claims and retention of this provision could hinder those negotiations.

SECTION [763]--DEBT COLLECTION (Page I-G76)

This section, dealing with debt collection, is deleted. The Department is committed to collecting debts due it and this section is not needed by the Department.

SECTION [765]--MEDICAL CARE TO FOREIGN PERSONNEL (Page I-G77)

This section requires reimbursement be made for all medical care furnished to foreign military and diplomatic personnel or their dependents on an inpatient basis. Generally, the Department is reimbursed for such care furnished to foreign military and diplomatic personnel; however, under treaties and other reciprocal agreements, in some cases, the Department has an obligation to furnish such care at less than the full reimbursement rates. This

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provision prevents the Department from fulfilling its obligations under these agreements and should, therefore, be deleted.

SECTION [765A]--VEHICLE AND AIRCRAFT LEASES TO NON-FEDERAL AGENCIES (Page I-G77)

This section prohibits the use of Defense funds for the leasing to non-Federal agencies of aircraft and vehicles when such items are available commercially in the private sector. The section reflects the general policy of the Department. Its retention in the Appropriation Act is, therefore, unnecessary.

SECTION [767]--DEMILITARIZATION OF WEAPONS (Page I-G77)

This section, relating to the demilitarization of small firearms, is modified by deleting the words "small firearms" and substituting the words "serviceable surplus non-automatic small caliber rifles." This language will continue the prohibition on demilitarization of serviceable weapons which may be issued to civilians, veterans organizations and Reserve Officers' Training Corps units. It will, however, permit the demilitarization of automatic weapons which cannot be issued.

SECTION [769]--MULTI-YEAR CONTRACTING (Page I-G77)

This section, requiring the specific provision in the Act for initiation of multi-year contracts is deleted in order to permit the Department of Defense to comply fully with the intent of Congress expressed in the Department of Defense Authorization Act, 1982 concerning multi-year contracts. Also, the Department believes that such a provision is not needed to ensure adequate Congressional supervision of the Department's multi-year contracting efforts.

SECTION [770]--REIMBURSEMENT FOR CONTRACTOR'S INSURANCE (Page I-G77)

This section, which prohibits the use of Department of Defense funds to reimburse contractors for the cost of commercial insurance for the contractor's own defects in materials or worksmanship, is deleted because a comparable permanent provision of law is contained in the Supplemental Appropriations and Rescission Act, 1981.

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SECTION [771]--ENLISTED PER DIEM (Page I-G77)

This section, restricting the amount of per diem in lieu of subsistence which may be paid to enlisted personnel is deleted because it is inconsistent with, and partially negates, the provisions of permanent law concerning per diem payments which were enacted to remove an inequity between enlisted personnel and officers concerning the entitlement to such payments.

SECTION [773]--TRANSFER TO FEDERAL EMERGENCY MANAGEMENT AGENCY (Page I-G77)

This section, which permits a transfer of funds from the Reserve Personnel appropriations to the Federal Emergency Management Agency, was added to the Act because the Fiscal Year 1982 budget request for the Agency did not include funds to support its Reserve program. The language has served its purpose and does not need to be repeated in the Fiscal Year 1983 Act.

SECTION [774]--COMPETITIVE RATE PROGRAM (Page I-G77)

This section, prohibiting the Department from expanding the competitive rate program for the shipment of household goods to Alaska and Hawaii, is deleted because the Department has no plans to expand the program to those areas in Fiscal Year 1983.

SECTION [776]--WAIVER OF RESEARCH AND DEVELOPMENT COSTS (Page I-G77)

This section, which requires advance notification to the Committees on Appropriations in the case of the waiver of certain research and development costs otherwise required to be recovered under the Arms Export Control Act, is deleted because the Department believes that it should be permitted to exercise its authority to waive such costs in those areas where warranted and appropriate without first notifying the Committees.

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SECTION [779]--POMCUS SETS 5 AND 6 (Page I-G77)

This section, which precludes the Department from transporting POMCUS sets 5 and 6 to Europe, is deleted because the Department believes that it is vitally important to transport the sets to Europe and that such shipments should be permitted during Fiscal Year 1983.

SECTION [780]--WICHITA, KANSAS WAGE BOARD EMPLOYEES (Page I-G77)

This section was added to the Fiscal Year 1982 Act to correct a temporary inequity which occurred in the computation of pay for wage board employees in the Wichita, Kansas, area. It has served its purpose and does not need to be repeated in the Fiscal Year 1983 Act.

SECTION [781]--LEASING OF AIRCRAFT (Page I-G77)

This section, relating to the leasing of certain administrative aircraft, is effective through Fiscal Year 1983. Accordingly, it does not need to be repeated in the Fiscal Year 1983 Act.

SECTION [782]--TRANSFER OF EQUIPMENT AND DATA TO FOREIGN COUNTRIES (Page I-G78)

This section, prohibiting the transfer of certain military equipment and data packages to foreign countries, is deleted because the Department believes that it should be permitted to make such transfers when and where warranted. The provisions of this section have placed the Department in a position in which it is unable to comply with certain of its international obligations such as previously concluded agreements that will need to be revised and existing memoranda of understanding for continuing coproduction assistance.

SECTION [783]--FOREIGN ADMINISTRATIVE USE VEHICLE PURCHASES (Page I-G78)

This section, limiting the purchase of foreign-made vehicles, is deleted because it interferes with the Department's obligations under international agreements.

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Also, it interferes with the Department's interoperability and interchangeability programs. This is particularly true in the case of Germany, Italy and the United Kingdom. Continuation of this provision will ultimately result in our forces having a mixture of vehicles that would compound problems of logistics support and adversely affect military readiness.

SECTION [784]--INTELLIGENCE AND SPECIAL ACTIVITY REPROGRAMMINGS (Page I-G78)

This section, requiring advance notification by the Secretary of Defense or the Director, Central Intelligence Agency, in the case of transfers or reprogrammings for intelligence and special activity items, is deleted because the Department believes that existing procedures in such cases are adequate.

SECTION [785]--GASOLINE MILEAGE RESTRICTION ON MOTOR VEHICLES (Page I-G78)

This provision, which prohibits purchases of passenger automobiles with an EPA estimated miles per gallon average of less than 22 miles per gallon, is deleted. The Department is committed to the purchase of fuel efficient vehicles, but does not believe that a rigid statutory restriction on the purchase of vehicles is necessary.

SECTION [786]--EXECUTIVE SCHEDULE POSITIONS (Page I-G78)

This section, which limits to 35 the number of Executive Schedule positions in the Department of Defense, is deleted because the Department does not believe that a statutory restriction on the number of such positions is needed.

SECTION [787]--CHEMICAL AND BIOLOGICAL WARFARE PROGRAMS (Page I-G78)

This language, reaffirming statements of Congress concerning the programs and urging the Administration to resume negotiations with the Soviet Union, has served its purpose and does not need to be repeated in the Fiscal Year 1983 Act.

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SECTION [788]--SILVER STOCKPILE (Page I-G78)

This language, requiring the President to make a redetermination concerning sales of silver from the stockpile not later than July 1, 1982 and to take certain actions concerning such sales, has served its purpose and does not need to be repeated in the Fiscal Year 1983 Act.

SECTION [789]--USE OF INDIAN LABOR AND PRODUCTS (Page I-G78)

This section, which states the Secretary may, in his discretion, purchase the products of Indian industry, is deleted. While the language is not entirely clear, it would appear from the legislative history that its intent is to permit a set-aside program for Indian sources. From the perspective of the Department of Defense, preferences for limited groups that are imposed on the procurement process tend to reduce competition and increase costs.

SECTION [790]--ADVANCED TECHNOLOGY BOMBER (Page I-G78)

This section, relating to the use of funds for the Advanced Technology Bomber Program, related only to the provisions of the Conference Report on the Fiscal Year 1982 Act and is, therefore, deleted.

SECTION [791]--SENSE OF CONGRESS ON THE NAVY (Page I-G78)

This section, expressing the sense of Congress concerning the Navy and directing compliance with existing law is deleted because it has served its purpose.

SECTION [764]--SPECIAL DEFENSE ACQUISITION FUND (Page I-G78)

This is a new provision which will permit obligations to be made in the Special Defense Acquisition Fund to the extent that funds are credited to the Fund.

SECTIONS [765] and[766]--OVERSEAS TEACHERS (Pages I-G78 and 79)

These are two new provisions added to the Act which would have the effect of ensuring that the teachers in overseas dependents schools would receive pay equal to those received by other Department of Defense civilian employees whose pay is

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determined under the General Schedule. If these provisions are not included in the Act, it is likely that the teachers will receive pay increases which will be a greater percentage than those received by all other civilian employees of the Department. The Department believes that such teachers should not be treated any differently than other civilian employees.

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[The biography of Mr. Tom Morgan follows:]

TOM MORGAN, OFFICE OF ASSISTANT GENERAL COUNSEL (FISCAL MATTERS), DEPARTMENT OF DEFENSE

Tom Morgan was born in Albany, New York on July 26, 1944. He attended Cornell University and was graduated with a Bachelor of Arts degree in 1966. He attended Albany Law School, Albany, New York and was graduated with a Juris Doctor degree in 1969. He is a member of the bars of the State of New York and the District of Columbia.

Mr. Morgan was a member of the ROTC program at Cornell University and served on active duty as a Captain in the Judge Advocate General's Corps of the Army from March 1970 to January 1975. He is presently a Major in the Army Reserve.

From January 1975 to September 1976 Mr. Morgan was engaged in the private practice of law in the District of Columbia.

Since September 1976, Mr. Morgan has been employed as an attorney in the Office of the Assistant General Counsel (Fiscal Matters) in the Office of the General Counsel, Department of Defense.

Mr. Morgan is married to the former Margaret Ann Zader of Lansing, New York and has two children.

MAYBANK AMENDMENT

Mr. **ADDABBO**. The Congress has included a provision which provides exception to the Maybank Amendment which in fiscal year 1982 permits the Defense Logistics Agency to award contracts up to a cumulative total of $5 billion for the purpose of relieving economic dislocation. The Department has proposed that this language be deleted because of enactment of permanent legislation.

The President has personally written a letter which supports retention of this language. If the committee were to retain this language in the fiscal year 1983 bill, would it conflict with any other existing law in insuring that this program continues?

Mr. **MORGAN**. The basic authority would not conflict with any existing law with respect to conducting a test. In this respect I mean that again it is my understanding, although I have not seen the Conference Report, but the Conferees on the Authorization Bill have agreed to continue permitting a test of this nature for fiscal year 1983.

Therefore, the only possible conflict or difference that might arise would be in the dollar amount of that test.

COMMANDERS-IN-CHIEF READINESS FUND

Mr. **ADDABBO**. The budget includes a new item of $100 million for no specific program which would be available to the various unified and specified commanders for expenses to improve force readiness and efficiency of operations.

Why is it necessary to request specific appropriation bill language authorizing this proposed new fund?

Mr. **MORGAN**. This fund would be a special fund for which there is no general provision for use of our appropriations and since it would permit the use of operation and maintenance appropriations for both normally O&M funded items as well as procurement items, the Department felt that it was necessary to include this language.

Mr. **ADDABBO**. Has language been included in the authorization bill?

Mr. **Morgan**. I do not believe that there is any specific language in the authorization bill. However, I do believe that both of the committees addressed the subject in their deliberations.

Mr. **Addabbo**. With the substantial increases included in the fiscal year 1983 request in O&M, why would it be necessary to provide a sum as large as $100 million for which there is no specific approved program before the Congress?

Mr. **Morgan**. The important thing here is to keep in mind that this is a special fund and a special authority that will be used by the commanders-in-chief of the unified and specified commands to meet unforeseen demands upon their stocks and their supplies needed to maintain readiness and that this would be used to meet extraordinary requirements within that authority. Otherwise, in the absence of this authority, the regular budgeting and appropriation process would have to be pursued.

Mr. **Addabbo**. Supply for the record what could be contemplated to be funded under this $100 million fund, because it would appear that the source of the items for which these funds could be expended by the unified and specified commands are actually responsibilities of the individual services.

So we would like a better breakdown as far as that is concerned for the record.

[The information follows:]

Because it is impossible to determine with certainty what unforeseen needs will arise which will necessitate use of the fund for its intended purpose of maintaining readiness, the language governing the fund provides that it could be used for operation and maintenance and procurement expenditures generally. As to the current anticipated use of the fund, if the Department obtains the requested appropriation and authority, it is intended that the fund will be used to respond to urgent, short-term, unprogrammed and unbudgeted operating requirements related to readiness and warfighting efficiency.

Preliminary guidelines prepared by the Office of the Joint Chiefs of Staff call for operation and maintenance expenditures for such items as:

Resources consumed in use.

Equipment with a per unit cost of less than $3,000 which is not centrally managed.

Assemblies, spares, and repair parts that are not centrally managed.

Clothing.

Petroleum, Oil and Lubricants.

Other expendible supplies and materials.

Cost of maintenance, repair, overhaul or rework of investment items.

Services received, including reimbursement to other appropriations.

Nonrecurring rentals and leases of a duration of one year or less.

Temporary duty expenses associated with projects funded under the Fund.

Procurement items will be those for which there is an urgent need and which have not been included in regular procurement appropriation requests.

Expenditures which will not be authorized will be:

Acquisition of major systems or end items.

Requirements which are the normal responsibility of non-Department of Defense agencies.

Requirements of foreign governments and their armed forces.

Projects which have been specifically disapproved previously by the Office of the Secretary of Defense, the Office of Management and Budget or the Congress.

Projects which cannot be fully obligated within the same fiscal year they are proposed.

Major military construction.

Except as indicated above, salaries and expenses of Government employees.

SURCHARGE FOR INSIGNIA

Mr. Addabbo. Section 760 imposes a surcharge on insignia that is purchased for resale in order to more nearly reflect the actual cost to the government for handling, transportation and storage. The Department now has proposed deleting this section.

Regardless of the fact that the Department does not agree with this provision which the committee initiated, has there been any management difficulty in implementing this language?

Mr. Morgan. I am advised that there were fairly significant management difficulties and increased expense to the Defense Logistics Agency, which is responsible for establishing this surcharge in that it required a great deal of detailed examination and study of the various costs associated with the insignia, including such items as management cost, storage, handling, and transportation and the like, to determine—to develop a figure of 28 percent to be the proper surcharge.

Mr. Addabbo. We have been informed that the Department has continued to purchase large volumes of obsolete and minimally required items of insignia and is appearing to make every effort to put out of business the firms associated with the Military Insignia Service Association.

Why should the committee not comply with your request and prohibit the Department from purchasing for resale items of insignia that could be sold directly from the private sector to the DOD exchange system?

Mr. Morgan. We do not believe that the Department is trying to put small businesses out of business. With respect the purchases of items for resale because of the quantity which the Department does purchase directly from these manufacturers, we are able to obtain a lower price, which in turn minimizes the impact on the individual purchasing the insignia.

Mr. Addabbo. The Military Accessories Service Association obtained a list of those items of insignia stored at one depot. Some of the items stored were out of date and incorrect.

The Association again asked for a list of items stored this year. When they got the list from DOD, all they had was a list by stock number with no narrative description, which makes the entire list useless.

Was this an attempt by the DOD to prevent the Association or anyone else from knowing the specific articles that again might be bought which are obsolete or minimally required?

Mr. Morgan. I am not aware of the exact circumstances surrounding furnishing of that list.

Mr. Addabbo. The committee would ask you to look into it and provide a list with the stock number and the narrative description of the article.

[The information follows:]

There are approximately 5,000 items in the insignia catalog. This information is available to the public on request from the Defense Logistics Services Center, Battle Creek, Michigan and copies of the information will be sent to the Military Accessory Service Association by the Defense Logistics Agency.

ANTICIPATORY POSSESSION CLAIMS

Mr. **Addabbo**. Section 762 limits payments for anticipatory possession compensation claims to those listed in the 1973 agreement with West Germany. The committee included this general provision after West Germany pressed for payment of these claims contrary to the agreement to which it was a signatory.

Specifically what payment is prohibited under the terms of this general provision?

Mr. **Morgan**. What would be prohibited under the terms of this general provision would be any claims which were not included in the 1973 agreement; in other words, any of those claims that you just referred to.

Mr. **Addabbo**. Since West Germany has agreed not to submit claims to the U.S. and since our bill has annually carried this prohibition for a number of years, why is the U.S. "currently negotiating with Germany concerning these claims"?

Mr. **Morgan**. Perhaps the term "currently negotiating" would be inappropriate and was an improper word to use. I am not aware of the agreement referred to. However, we feel that there may be occasions in which we will be called upon to negotiate should the Germans decide to press their claims again. I am informed that they have not pressed any claims since 1980.

PURCHASE OF SOVIET BLOC MANUAL TYPEWRITERS

Mr. **Addabbo**. Last year the committee included report language supporting DOD's decision not to procure manual typewriters built in Soviet Bloc countries.

Is the Department continuing with its policy of prohibiting the purchase of such Polish and East German typewriters?

Mr. **Morgan**. Yes, sir. In April of this year, the Department suspended procurement of such manual typewriters pending further review of the need for the items and potential alternatives to satisfying the requirements.

Mr. **Addabbo**. Does that prohibition also include spare parts and supplies?

Mr. **Morgan**. The Department is not buying any spare parts from these countries. However, there may be some excess typewriters, if they get repaired prior to being put back in service, U.S. firms representing those companies would be providing the parts.

Mr. **Addabbo**. Mr. Dicks.

VEHICLE AND AIRCRAFT LEASES TO NON-FEDERAL AGENCIES

Mr. **Dicks**. On the Section 765(a), vehicle and aircraft leases to nonfederal agencies, last year the Congress included the general provision in the Defense bill prohibiting DOD from leasing to nonfederal agencies aircraft and vehicles which are available commercially in the private sector. I understand that occurs a lot in California.

Are you aware of that?

Mr. **Morgan**. It is my understanding that that occurred in California at one time. However, the Department has reemphasized its policy to preclude that occurrence.

Mr. Dicks. In the absence of such a general provision, specifically what items would DOD lease to nonfederal agencies that are currently prohibited?

Mr. Morgan. The policy of the Department of Defense on that kind of a lease is not to compete with the private sector. Most of the requests for leases are for small aircraft which are used for emergency-type operations such as firefighting.

Mr. Dicks. But there are people around who do have airplanes and who do provide those kinds of services, isn't that correct?

Mr. Morgan. I would imagine so.

Mr. Dicks. The Department of Defense operates certain units which are naturally called upon to come to the aid of states in times of crisis with reimbursement being received only for the incremental cost involved.

For example, an Air Guard squadron in San Antonio, Texas, flies C–130s that are specially configured to fight forest fires. This mission is one that could be critical in wartime, especially in the dense forest areas of Central and Western Europe.

Would continuation of this general provision prohibit these units from obtaining realistic training similar to their military mission?

Mr. Morgan. No, sir, we don't believe that it would. We operate certain units, which are, because of their nature, called upon to come to the aid of states in times of natural disaster, such as forest fires, and normally we do not lease those aircraft. For example, the Air Guard Squadron in San Antonio, Texas is specially equipped to fight forest fires. This mission could be critical in wartime, and this kind of activity would continue.

LEGISLATIVE AFFAIRS LIMITATION

Mr. Dicks. Going to Section 728, legislative affairs limitation, at virtually every turn in considering the fiscal year 1982 bill and the recent supplemental bill, the numbers provided to the committee for the legislative affairs limitations have been incorrect.

The fiscal year 1983 request includes a limitation of $9.1 million. What is that $9.1 million for?

Mr. Morgan. The $9.1 million is the estimate which has been arrived at concerning the costs of all of the legislative affairs activities which are conducted within the Department of Defense.

Mr. Dicks. Does that include the services?

Mr. Morgan. Yes, sir.

Mr. Dicks. Is this the proper limitation level or is this number wrong as well?

Mr. Morgan. I have been advised that $9.1 million has been agreed upon as the proper dollar limitation.

Mr. Dicks. Will it be exceeded?

Mr. Morgan. Based on the information that I have received, I do not believe that it would be.

Mr. Dicks. Well, have you received all the information?

Mr. Morgan. I think so, yes, sir.

Mr. Dicks. But you are not sure?

Mr. Morgan. I am not sure.

Mr. Dicks. So it is possible that it could be exceeded?

Mr. Morgan. Yes, sir.

Mr. Dicks. In fiscal year 1982, the department made no effort whatsoever to live within the legislative affairs limitation included in the general provisions.

Is it the department's intention to comply with whatever limitation that Congress approves for fiscal 1983 or is more restrictive language necessary to ensure that compliance is forthcoming?

Mr. Morgan. I believe that the department is fully intending to comply with the limitation for fiscal year 1982 and will comply with any limitation that Congress imposes.

Mr. Dicks. If you don't know how much you are spending, how can you comply with the limitation?

Mr. Morgan. I believe that—the problem arises not so much from the fact that we don't know how much we are spending but through increases over which the department has little control during the fiscal year such as pay increases and the like.

Mr. Dicks. We make other agencies eat pay increases. We might have to lay off a couple of people. We could send all those military people who are working on the C-5 back out to do something productive for the country.

Mr. Edwards. Do you want to comment on that?

Mr. Morgan. No, sir. I have been advised, however, that in at least one of the legislative liaison offices there are currently a number of vacancies which are not going to be filled because of an awareness of the limitations which are placed on the group.

Mr. Dicks. Do you have an accounting system? I would like a breakout of what has been spent thus far this year on legislative activities, salaries, travel, expenses, things of that nature. Can you do that?

Mr. Morgan. I would have to supply that information.

Mr. Dicks. For the record. I don't expect you to have it here today.

Mr. Morgan. Yes, sir.

Mr. Dicks. Can you do it on a quarter-by-quarter basis?

Mr. Morgan. I am not aware of the system that is used.

Mr. Dicks. Is there a system?

Mr. Morgan. I believe so, yes.

[The information follows:]

The information, which appears in the following table, was submitted by the Office of the Assistant Secretary of Defense (Legislative Affairs) for the Office of the Secretary of Defense and by the legislative liaison offices of the military departments for their respective departments:

DEPARTMENT OF DEFENSE LEGISLATIVE ACTIVITIES SUMMARY

	1st Quarter	2d Quarter	3d Quarter	Total
Office of the Secretary of Defense:				
Personnel Costs	$512,683	$540,870	$540,420	$1,593,973
Travel	8,977	7,994	2,943	19,914
Official Representation Funds	0	0	131	131
Total	521,660	548,864	543,494	1,614,018
Department of the Army:				
Personnel Costs	597,480	597,480	597,480	1,792,440
Travel	2,125	2,125	2,125	8,500
Other Costs	33,599	33,599	33,599	100,797

DEPARTMENT OF DEFENSE LEGISLATIVE ACTIVITIES SUMMARY—Continued

	1st Quarter	2d Quarter	3d Quarter	Total
Total	633,204	633,204	633,204	1,899,612
Department of the Navy:				
Personnel Costs	421,030	411,930	413,730	1,246,690
Travel	7,600	25,400	7,700	40,700
Other Costs	9,900	29,500	17,900	57,300
Total	438,530	466,830	439,330	1,344,690
Department of the Air Force:				
Personnel Costs	596,563	571,904	622,238	1,790,705
Other Costs	31,398	30,100	32,750	94,248
Total	627,961	602,004	654,988	1,884,953

Mr. DICKS. The committee staff has been told that the Assistant Secretary of Defense for Legislative Affairs has no authority to approve or disapprove the establishment of additional full-time legislative liaison personnel scattered throughout the department. Is that correct?

Mr. MORGAN. Yes, sir.

WAIVER OF RESEARCH AND DEVELOPMENT COSTS

Mr. DICKS. The committee included a general provision for the fiscal year 1982 bill requiring that the department notify the committee prior to exercising its authority to waive certain research and development costs otherwise required to be recovered under this Arms Export Control Act.

The department requested that this be deleted from the fiscal year 1983 bill. Since the provision only requires notification and does not limit the department's authority, the only advantage to its deletion would appear to be that the department does not want the committee to know what it is up to. Why is this provision proposed for deletion?

Mr. MORGAN. The provision is proposed for deletion, first, because we believe that the committee can and has knowledge of any supervision over the waivers that are exercised, that the information is available.

It is not only being deleted because of the notification requirement. Quite often these negotiations which are conducted concerning these waivers are rather delicate in nature, and we believe that, sometimes, prior notification of an intent to exercise this waiver could compromise the negotiating position.

But the most important thing is that we believe that the information can be furnished without a prior notification requirement.

Mr. DICKS. The authority to waive these costs is supposed to work for the good of the United States. However, we were recently treated to the spectacle of the Secretary of Navy writing to the Secretary of Defense of Spain proposing that the R&D development costs be waived on the F-18 if that country would purchase that aircraft rather than the F-16 offered by the U.S. Air Force.

The usual rationale for waiving the costs is to promote interoperability, standardization, and so forth, of our NATO allies. Since the choice was between two frontline U.S. aircraft which would result in standardization in any case, why was the Secretary of the Navy offering to waive these costs?

Mr. Morgan. Earlier this year I believe the Secretary of Defense made a similar offer to the Spanish with respect to a waiver of part of the costs.

Mr. Dicks. The Secretary of Air Force had?

Mr. Morgan. The Secretary of Defense. I am not aware of the exact nature of the Secretary of the Navy's letter with respect to the waiver of these costs.

However, I have been told that, while the choice with repsect to the Department of Defense would be between two of our aircraft, the Spanish are also considering the aircraft of another nation.

Mr. Dicks. Does the Secretary of the Navy have the authority to make the determination that these costs are to be waived?

Mr. Morgan. The Secretary of the Navy, no, sir. That authority is, by statute, vested in the President, and he has delegated his authority to waive those costs to the Secretary of Defense.

LEASING OF AIRCRAFT

Mr. Dicks. The committee included a provision in the fiscal year 1982 bill authorizing administrative aircraft to be leased in order to replace the inefficient C–140 aircraft. Will the department lease such aircraft in fiscal year 1982?

Mr. Morgan. I am not aware of whether the department has leased any such aircraft. I could supply that information for you.

Mr. Dicks. Why will the authority not be needed in fiscal year 1983?

Mr. Morgan. The authority in the 1982 act is valid through fiscal year 1983, so the language does not need to be repeated.

Mr. Dicks. Thank you, Mr. Chairman.

Mr. Addabbo. The gentleman from Alabama.

ADMINISTRATIVE USE VEHICLES

Mr. Edwards. Well, let's see here.

DOD is suggesting the deletion of Section 783 having to do with administrative-use vehicles.

The subcommittee had detailed hearings on this provision in connection with the general supplemental and agreed to retain the provision. How many vehicles and what costs are we talking about annually that are affected by this provision?

Mr. Morgan. I do not have that information. If I could submit that for the record.

Mr. Edwards. Could you submit it and then break it down by country?

Mr. Morgan. Yes, sir.

Mr. Edwards. What foreign countries are affected by the provision?

Mr. Morgan. I would have to submit that for the record.

Mr. Edwards. How many vehicles will DOD purchase in 1982 and 1983 fiscal years, and what is the total estimated cost?

Mr. Morgan. I am not familiar with this area. I don't have any information on that.

[The information follows:]

The countries affected by this provision are the United Kingdom, the Federal Republic of Germany and Italy. Because our annual quantity of vehicles will vary, we do not have a specific annual projection; however, for fiscal years 1982 through 1986, we project that we will purchase a total of 9,000 vehicles with an approximate value of $190 million.

Mr. Edwards. As was discussed in the supplemental hearings in May, Congressman Hillis proposed some compromise language on this issue which was objected to by DOD on the ground that it would violate the agreement on government procurement negotiated under the Tokyo Round of the Multilateral Trade Negotiations. Is that still your position?

Mr. Morgan. This is not an area in which I have had many dealings. I assume that is still our position.

Mr. Edwards. I am going to put all the questions on this subject in the record, and you can supply the answers, if you will.

Mr. Morgan. Yes, sir.

[Clerk's note.—Questions submitted by Mr. Edwards and the answers thereto follow:]

Question. Can any compromise language be worked out?

Answer: Although we would prefer to see no restrictions on such purchases at all, if one must be imposed, then we suggest that the following language be added to the current provisions of section 783: "*Provided further,* That this section does not apply to purchases of administrative use vehicles from the Federal Republic of Germany, the United Kingdom or Italy so long as the vehicles purchased are standardized or interoperable with the vehicles of the country from which purchased."

Question: What are the specific sections of the Agreement on Government Procurement that address this issue?

Answer: Article II of the Agreement addresses matters concerning the obligations of signatories to provide foreign suppliers the same treatment accorded domestic suppliers insofar as government procurements are concerned.

Question: Do other nations have restrictions on the purchase of Government vehicles outside their country, especially the ones affected by this provision?

Answer: To the best of our knowledge, while there may be such restrictions, we are not aware of any. If any such restrictions do come to our attention, we will advise the Committee.

[Clerk's note.—End of questions submitted by Mr. Edwards.]

C-2 COD AIRCRAFT

Mr. Edwards. I am going to talk now about the C-2 COD aircraft. Mr. Morgan, your statement on page 3 reads, "The provision providing that only $37 million of this appropriation shall be available for the purchase of C-2 aircraft under a multiyear contract is deleted as no longer necessary."

Can you explain why this language is no longer necessary?

Mr. Morgan. What the statement intended to imply was that the language did not need to be repeated in the fiscal year 1983 act in view of the fact that this limitation was applicable to those funds in the 1982 act.

Mr. EDWARDS. Are you, in essence, proposing that we remove the language which fences the funds for the C-2 multiyear contract?

Mr. MORGAN. No, sir, not with respect to the fiscal year 1982 act. However, unless the committee feels that a similar restriction is needed in 1983, we do not believe that—obviously that language would not need to be repeated.

SCHOOLS LOCATED ON MILITARY INSTALLATIONS

Mr. EDWARDS. The department has recommended a new subsection in the general provisions permitting the department to extend funds for carrying out Section 10 of the Act of September 10, 1950, concerning schools located on military installations. Why is the department requesting this language?

Mr. MORGAN. Well, as you are aware, in the Omnibus Reconciliation Act of 1981, authority was granted to the department to use its funds to support what are so-called Section 6 schools.

Section 6 of the act of September 23, 1950 authorizes arrangements to provide free public education other than arrangements for such items as construction, leasing, renovating, remodeling or rehabilitating structures which are used for schools. This authority is contained in Section 10 and the Department believes that it was necessary to have this authority as well as the authority to make expenditures under Section 6.

Mr. EDWARDS. What would be the impact if this language were not included in the bill?

Mr. MORGAN. The impact on this—the current statute provides that the Secretary of Education has the authority to make these arrangements and to make these payments. If this language is not included in the bill, then, of course—because the specific authority is granted to the Secretary of Education, we would not have the authority to make the expenditures of the type covered by Section 10.

SPECIALTY METALS EXEMPTION TO BUY AMERICAN PROVISION

Mr. EDWARDS. Now I am going to talk about Buy American specialty metals. You are an expert on that?

Mr. MORGAN. No, sir, I am not.

Mr. EDWARDS. We will start. Maybe you will have to put a lot of your answers in the record.

DOD is requesting the inclusion of language in this section which would exempt specialty metals and chemical warfare protection clothing from the Buy American requirement if such purchases are to fulfill offset sales agreements with foreign countries or to further standardization or interoperability of equipment in NATO.

The Buy American provision has been in the bill for many years and the specialty metals exemption was included in fiscal year 1978. However, in the fiscal year 1982 bill the Senate struck out the specialty metal waiver. We covered this subject in detail in connection with our supplemental hearings.

Since the specialty metals and chemical clothing exemption has been excluded from the provision for just about the full current fiscal year, could you tell us if there have been any adverse effects during this period?

Mr. Morgan. As the Secretary has indicated, there would be, and it is our view that there are, a number of adverse effects which will arise as a result of the absence of the exclusion. However, I am not aware of the specific details of all of these adverse effects.

Mr. Edwards. How much specialty metals in dollar value and tons does DOD purchase directly in raw materials and indirectly as fabricated parts in a year period?

Mr. Morgan. If the data is available, we will have to furnish that information for the record.

[The information follows:]

For a number of years, the Department, in conjunction with the Department of Commerce, has estimated that we use about 4 percent of the total specialty metals output in the form of raw or semi-finished materials, fabricated parts and assemblies and as elements of finished parts and assemblies. We have since revised our estimates based on information contained in material prepared by the American Iron and Steel Institute. We now estimate that our usage would be more realistically stated as being about 269,000 tons of specialty metals costing about $160 million, as opposed to our prior estimate of 472,000 tons costing between $200 and $280 million. As a result of our revised estimate, we have concluded that we use 2 percent, rather than the 4 percent earlier estimate, of the specialty metals.

Mr. Edwards. Other data having to do with tonnage and dollars you would have to supply for the record, would you?

Mr. Morgan. Yes, sir.

Mr. Edwards. Please answer the rest of the questions on this subject for the record.

[Clerk's note.—Questions submitted by Mr. Edwards and the answers thereto follow:]

Question. What are the annual sales of the U.S. specialty metals industry in tonnage and dollars?

Answer. We obtain our information from material published by the Iron and Steel Institute. According to the information available, the annual production is 11,758,846 tons. We do not have the dollar figures.

Question. What countries are most affected by not including this exemption?

Answer. The NATO countries, Switzerland, Australia, Israel, and Egypt.

Question. How much chemical protective clothing is purchased from foreign sources in a year period, and what are the total purchases by DOD in this area for the same period?

Answer. In fiscal years 1980, 1981, and 1982, we purchased the following amounts of chemical protective clothing: Fiscal year 1980—$53.3 million; fiscal year 1981—$17.1 million; fiscal year 1982—$22.9 million.

During fiscal years 1980 and 1981 we were free to make foreign purchases because of the authority which appeared in section 723 of the Appropriation Act. We did not have this authority in fiscal year 1982. Our records indicate that we made no foreign purchases in fiscal years 1980 and 1982 and that in fiscal year 1981, we purchased $5.7 million of chemical protective clothing.

Question. Do any of these affected countries have any restrictions on the foreign purchase of specialty metals, chemical protective clothing or other restrictions that would affect U.S. trade?

Answer. We are not aware of any such restrictions.

[Clerk's note.—End of questions submitted by Mr. Edwards.]

FOOD PACKAGING—BUY AMERICAN

Mr. **Addabbo**. During the hearings on the fiscal year 1982 supplemental, testimony was heard on H.R. 5511, which amends the Buy American provisions in the defense bill so as to include all aspects of food packaging under the protection of that act. The department did not support including the language of H.R. 5511 during the supplemental hearings. Does it still oppose this language for the fiscal year 1983 bill as well?

Mr. **Morgan**. Yes, sir, it does.

Mr. **Addabbo**. Is it true that the only contract involved would be a Canadian firm working through a U.S. minority business firm?

Mr. **Morgan**. Only U.S. and Canadian manufacturers are permitted to bid on this type of procurement and future contracts could include a Canadian firm working through a U.S. minority or small business firm. I am not exactly aware of the nature of the arrangement that has been made with the current Canadian firm.

Mr. **Addabbo**. Since the manufacturer involved is located in Canada, is it the department's judgment that there is no adverse impact on our readiness as a result of this manufacturing being accomplished outside our borders?

Mr. **Morgan**. The answer to that question is yes. The Department has established Canadian firms for many other items as planned producers to provide critical items in the case of mobilization. It is our view that these suppliers do add to our readiness. As a matter of fact, United States and Canadian firms are the only ones which are included in our industrial mobilization base.

EXPERIMENTAL MEDICAL TREATMENT

Mr. **Addabbo**. Regarding Experimental Medical Treatment, what has prompted the Department of Defense to include a new proviso to this section, and under what circumstances would an exception apply in cases of beneficial treatment and to permit another's consent if a patient is incapable of doing so? How many instances would have been covered if this requested proviso had been law for fiscal year 1982?

Mr. **Morgan**. What has prompted the Department of Defense to request this language, which we regard as more of a clarification of the provision rather than the new authority, is the fact that currently, as you are aware, the provision prohibits its use of humans as uninformed or nonvoluntary experimental subjects. This provision was originally added to the defense appropriation bill several years back after a similar provision had been proposed for government-wide applicability.

At that time it was added to the bill in relation to—I do not believe it was in reaction to any specific Department of Defense practice, but a general practice which had come to light and had been criticized of medical experiments being conducted on mentally incompetent persons, prisoners and children. The department has never engaged in this type of research. However, there are a number of drugs in development which can sometimes be the only available lifesaving or treatment drugs for certain diseases. These drugs generally require use during the development stage. In order to use these drugs, it requires the patient participant to voluntarily become or to become what we would call, in the restricted sense of the term, an experimental subject because of the experimental nature of the drug. The department believes that in some cases these drugs may be the only ones that are available in order to provide beneficial medical treatment. Under the current law, there is considerable question as to whether individuals could be given this kind of lifesaving treatment, particularly if they were in a state where they could not consent or, for instance, if they were minors where there is some considerable debate as to whether or not the minors can consent, and there is a certain degree of controversy concerning whether the parent or guardian of such minors can give consent

So what we are trying to do here is to make it clear that in case of such treatment, where it is accomplishing a valid medical purpose, a treatment purpose, that these individuals can participate in these experiments. It is largely a matter of getting treatment to these people.

With respect to the number of individuals who might have been affected, I have been told that it is probably unlikely that we could come up with a specific number, because at the present time doctors—this is not being considered as an option.

TRANSFER OF EQUIPMENT AND DATA TO FOREIGN COUNTRIES

Mr. **Addabbo**. Regarding the transfer of equipment and data to foreign countries, DOD is suggesting the elimination of this provision. What have been the specific problems resulting from the inclusion of this provision in the Defense Appropriation Act?

Mr. **Morgan**. The specific problem relates to an inability to comply with existing agreements which we have with foreign countries, that may require modification from time to time, and memoranda of understanding which we have entered into with foreign countries for co-production agreements. Under the terms of this language we cannot modify or, in some cases, honor those.

Mr. **Addabbo**. Is there any type of similar restriction in law or currently being considered in connection with any legislation by Congress?

Mr. **Morgan**. I am not aware. I do not know.

Mr. **Addabbo**. The gentleman from Alabama.

EXTENSION OF SHIPBUILDING APPROPRIATION

Mr. **Edwards**. Thank you, Mr. Chairman.

The Navy is again requesting that the period of availability of the shipbuilding appropriation be extended from 5 to 7 years. The Navy, in their supplemental budget, requested that $176.2 million of the fiscal year 1978 shipbuilding appropriation be extended two additional years because of new scope work requirements.

In fiscal year 1978, Congress appropriated nearly $6 billion, and of that amount, you required an extension of only two additional years for only $176 million.

Why is it necessary now to have a 7-year appropriation when such a small portion of the total amount requires additional time?

Mr. **Morgan**. We believe that a 7-year period of availability will insure, will make it easier for the department to execute its programs within the time that it takes to actually build the ships, and quite often these requests for extension are granted shortly before the expiration of the period of availability of that appropriation, and it causes a great deal of uncertainty as to whether or not that authority will be capable of being used. And if we have a 7-year period of availability, it should minimize that and provide for orderly and realistic execution of the shipbuilding program.

Mr. EDWARDS. But in view of the small amount involved in this situation, wouldn't it seem to be more reasonable just to submit the request as the need requires, and to consider these on a case-by-case basis?

Mr. MORGAN. That, of course, is the avenue we have been taking.

Mr. EDWARDS. You are arguing that that is not the orderly way?

Mr. MORGAN. However, we believe that it would be to all our interests to provide for a 7-year availability for the shipbuilding appropriation, so that these requests do not have to be made as they are being made more frequently as the period actually takes 7 years.

Mr. EDWARDS. The Navy, in their supplemental request, also asked that a total of $343.7 million be extended two additional years. Yet after some questioning by the committee, we found that only $176.2 million of that amount that I mentioned a moment ago was really required for new scope work. How can you ask the committee to support the department when your request is nearly twice the amount of money that was truly required? Is that really in your bailiwick?

Mr. MORGAN. No, sir, it is not.

SPECIAL FOREIGN CURRENCY PROGRAM

Mr. EDWARDS. DOD is requesting an increase in the foreign currency appropriation from $3,083,000 in fiscal year 1983 to $3,800,000 for fiscal year 1983. Could you please tell the committee what these currencies will be used for in fiscal year 1983?

Mr. MORGAN. These currencies are going to be used for five medical and research related undertakings which are planned to be done in Pakistan and India.

Mr. EDWARDS. Will you provide for the record a detailed table showing the currencies used last year, the amounts, the purpose for such use, and your estimates for fiscal year 1983?

Mr. MORGAN. Yes, sir.

[The information follows:]

Because of difficulties in negotiating contracts with foreign countries involved, we have been unable to make use of the foreign currencies this year; however, the following usage of the currencies is planned.

	Amount (in thousands of dollars)
Fiscal year 1982:	
1. Biology of N.W. Indian Ocean Sea Snakes; Pakistan	461
2. Western Indian Ocean Plankton; Pakistan	754
3. Distribution of Western Indian Sea Snakes; India	384
4. Infectious and Parasitic Diseases of India; India	520
5. Collaborative Studies of Indian Ocean Biofouling; India	276
6. Behavior and Biology of Indian Ocean Crustaceans; India or Pakistan	688
Total	3,083
Fiscal year 1983:	
1. Life Studies of Benthic Marine Organisms; Pakistan	689

	Amount
2. Biology of Bioluminescent Marine Organisms; Pakistan	836
3. Epidemologic Studies of Infectious Diseases; Pakistan	784
4. Toxic Marine Organism International Conference; India	265
5. Seasonal Distribution of Marine Bioluminescence; India	1,226
Total	3,800

Mr. **Edwards**. Would you provide for the record the exact code citation for the authorization allowing the use of these foreign currencies and allowing the availability to extend to September 30, 1984?

Mr. **Morgan**. Yes, sir.

[The information follows:]

The authorization is contained in the annual Department of Defense Authorization Acts, although the acts do not contain specific language authorizing the appropriation. For fiscal year 1982 the authorization was part of the amounts authorized for Research, Development, Test and Evaluation, Navy. The period of availability of the appropriations is provided by the appropriation made for the Special Foreign Currency program in the Appropriation Act.

Mr. **Edwards**. Are these foreign currency availabilities in addition to your regular appropriations?

Mr. **Morgan**. No, sir, they are not. They are purchased from the Department of the Treasury, and the foreign currencies become part of the Department of Defense regular appropriations.

Mr. **Edwards**. How does all this work? Does DOD have to physically reimburse the Treasury Department for any foreign currencies used, or do they credit a DOD account with whatever amount that is provided in the appropriation act?

Mr. **Morgan**. It is my understanding that these items are purchased. I am not sure exactly how the transaction is handled from an accounting standpoint.

Mr. **Edwards**. Would you fill that in for the record?

Mr. **Morgan**. Yes, sir.

[The information follows:]

There is no physical reimbursement to the Treasury. The use of such currencies is handled as an administrative matter between the Department and the Treasury.

Mr. **Edwards**. What currencies are currently considered to be excess to the normal requirements of the United States, and what amounts are available for U.S. use?

Mr. **Morgan**. The current currencies which are considered to be excess are those of India, Pakistan, Burma, and Guinea, and the total amount in dollar equivalent available is approximately $752 million.

Mr. **Edwards**. Are you restricted to using only those currencies?

Mr. **Morgan**. Yes, sir, as long as they are the ones that are certified as being excess, we are, yes.

Mr. **Edwards**. I understand.

Are you allowed to use these excess currencies to pay for expenses in countries other than the country whose currency is in excess?

Mr. **Morgan**. No, sir, we are not.

Mr. **Addabbo**. We have other questions which will be submitted to you and we ask you to give complete answers for the record.

[**Clerk's note**.—The questions submitted by Mr. Addabbo and the answers thereto follow:]

SECTION 708—AVAILABILITY OF APPROPRIATIONS

QUESTION. Section 708 of the General Provisions provides a series of authorizations for different availabilities of appropriations included in this bill. The Department is requesting two new sub-sections this year, the first of which addresses depot maintenance contracts for the Air Force and the second addressing uranium enrichment for Naval Reactors for the Navy.

Subsection (o) as requested by the Department would allow for payments for depot maintenance contracts for 12 months beginning at any time during fiscal year 1983. The Department has proposed this as a solution to a GAO criticism of the way the Air Force finances contracts in its industrial fund to civilian depot maintenance firms. The Air Force has included a request of $350 million to finance this change which is essentially a bookkeeping entry. If the Committee approves sub-section (o) as proposed by DOD, is it true that $190 million could be deleted from the fiscal year 1983 request?

Mr. MORGAN. The $350 million requested assumes that two major changes will be made in the way that the Air Force finances contracts for depot maintenance. These changes are: 1) discontinuing the practice of anticipating customer orders in advance of the customer's appropriation and 2) removal of the contracts from the industrial fund. If subsection (o) is added to section 708 and the contracts continue to be financed in the industrial fund, then $190 million could be deleted.

QUESTION. If the Committee were to provide language in the fiscal year 1983 General Provisions to legally sanction the method the Air Force has been using for many years in awarding its civilian depot maintenance contracts: (a) what specific language would be required? (b) If the Committee adopts this approach, could the entire $350 million be deleted? (c) Another option would be to provide contract authority for the Air Force. What specific language would be required to accomplish this and could the entire $350 million dollars be deleted if the Committee choses this approach?

Mr. MORGAN. With appropriate statutory language that would provide a clear statutory basis to support the method the Air Force has been using for many years, the Committee would not need to appropriate any of the $350 million. Such language would, in effect, be contract authority. There follow 2 substantively identical, but procedurally different, versions of language which would accomplish these ends.

(1) A permanent free standing general Provision, to be included in the Appropriation Act:

Sec. —. Hereafter, obligations may, without regard to fiscal year. limitations, be incurred against anticipated orders for services or work to be performed by industrial fund activities in such amounts and for such periods as the Secretary of Defense may determine to be necessary to maintain efficient operations in the industrial fund activities, consistent with planned operations for the next fiscal year.

(2) An amendment to section 2201(b) of title 10:

Sec. —. Section 2210(b) of title 10, United States Code, is amended to read as follows:

"(b) Obligations may, without regard to fiscal year limitations be incurred against anticipated reimbursements to working capital funds in such amounts and for such periods as the Secretary of Defense, with the approval of the Director of the Office of Management and Budget, may determine to be necessary for the efficient operation of the working capital funds consistent with planned operations for the next fiscal year."

Question. The Office of Management and Budget has proposed transferring $109 million from the Department of Energy to the Department of Defense to pay for the nuclear investment costs associated with operating nuclear warships. Is it true that the Department of Defense would have no authority to spend these funds that have been requested without including general provision language providing such authorization?

Mr. Morgan. Because this authority would involve, in part, use of operation and maintenance funds for needs which extend beyond the fiscal year, authority would have to be provided for the Department to use such funds for that purpose. This conclusion is based on a multitude of Comptroller General decisions which delineate what is generally known as the "needs theory" which is the test for the use of annual funds. Therefore, in the absence of specific language in the appropriation act granting the authority or other specific authority provided elsewhere, the Department would not have authority to spend such funds for the intended purpose.

Question. The Navy has indicated that it has no objection if the $109 million is transferred back to the Department of Energy and the program operates as it has historically. Is that also the position of the Office of the Secretary of Defense?

Mr. Morgan. Both the Department of the Navy and the Office of the Secretary of Defense support the position reflected in the President's Budget that costs for the nuclear investment program should be funded by the Department of Defense.

SECTION 717—TRANSFER OF VESSELS

Question. Does the Defense Department have any objection to including the Department of Transportation in this provision? During fiscal year 1982, has DOD transferred any vessels to any other agencies? If so, please provide the details for the record? Are any DOD vessels currently on loan to any of the agencies? If so, please provide the details for the record. Include in these details the length of time the vessel has been on loan. When the vessels are transferred, is it understood that the vessels are to be returned to DOD, or is this a permanent transfer? Have the services transferred vessels among themselves during the past year? If so, provide the details for the record? Has DOD received any vessels by transfer during the past year, and does DOD currently have any vessels on hand which were transferred from other agencies? If so, provide the details for the record.

Mr. Morgan. The reference to the Department of Commerce contained in this section was designed to permit transfers from and to the Maritime Administration, which was under the Department of Commerce. The Maritime Administration was transferred to the Transportation Department last year, so the section should be changed by deleting the reference to the Department of Commerce and by substituting the Department of Transportation.

The Department has not used the authority in this section during fiscal year 1982 and we are not aware of any recent usage; however, this section, which has appeared in appropriation acts since 1953, provides important authority to transfer vessels or to make them available to the agencies involved on a non-reimbursable basis and should be retained in the Appropriation Act.

SECTION 732—REAL PROPERTY MAINTENANCE AND REPAIR

Question. The budget proposed deleting section 732 relating to minor construction activities. The justification for this proposal is that this language duplicates permanent statutory authority contained in section 2674 of title 10. Is the permanent statutory authority identical to the language in section 732? If the Committee deleted the section as proposed by the Department, would there be any change whatsoever in the DOD rules governing these activities?

Mr. Morgan. The language in section 732 relating to the use of operation and maintenance appropriations is substantively similar to the language in section 2805(c) of title 10, which is the section which replaced section 2674 in the codification of military construction statutes which was recently enacted. There is a difference; however, in the dollar amounts with respect to the use of operation and maintenance funds for minor construction as section 2805(c) has increased this amount to $200,000 rather than the $100,000 which is contained in section 732.

If the language in section 732 is deleted, there would be no change in the rules governing the use of operation and maintenance funds to accomplish minor construction, although the dollar amount would be increased. In this regard, if section 732 is retained in the Appropriation Act, the dollar limitation should be increased to $200,000 so that it will reflect the dollar limitation contained in section 2805.

SECTION 733—TRANSFER LIMITATION

Question. DOD is requesting that the general transfer limitation be increased from $750,000,000 to $1,000,000,000. In the general supplemental bill that completed conference last week, the conferees agreed to increase this limitation to $800,000,000 for the remainder of fiscal year 1982. In addition, DOD wants to delete and include language which would have the effect of increasing the source of funds for such transfers.

How long has the $750 million limitation been in effect?

Mr. Morgan. The $750 million limitation has been in effect since the Fiscal Year 1972 Appropriation Act.

Question. Have you used the entire amount of the transfer allowance for the last several fiscal years? Provide a table showing the amount of transfer allowance used for the last five fiscal years.

Mr. Morgan. The Department has not used the entire amount of the Transfer authority; however, this non-use of the authority is not because there were not needs for the funds to be transferred but because of competing priorities as well as the limited sources of funds because of the restrictions on such sources which have been imposed since fiscal year 1978. Even more important, the need for this transfer authority cannot be judged by the amount of its use. The authority provided by this section gives the Department the only flexibility it has to respond to unforeseen demands by moving appropriations from one account to another and between appropriations. Its size in relationship to the overall appropriations made for the Department is extremely small and gets smaller as defense appropriations increase, but it provides an important insurance policy for the Department so that the Department can quickly respond to unexpected situations. Following is a table of the amounts used for fiscal years 1977 through 1981, together with information concerning the amounts proposed for transfer by the Department:

USE OF TRANSFER AUTHORITY

[In millions of dollars]

	Fiscal year—				
	1977	1978	1979	1980	1981
Requested	452	733	420	601	174
Approved	230	688	383	550	142

Question. Why does DOD feel it needs to be allowed to make transfers from prior fiscal years?

Mr. Morgan. The Department feels that it needs to be allowed to make transfers from prior fiscal years because it increases the source of funds which are available for transfer. One of the primary movements of funds is from the procurement accounts into the annual accounts such as military personnel and operation and maintenance. When we are required to use current procurement accounts to fund the transfers, we have a more difficult time because it is not as easy to find money as it is when older programs, which have matured, are looked at and there is more certainty that the funds should be transferred from those prior year accounts.

SECTION 748 AND SECTION 764 SPECIAL DEFENSE ACQUISITION FUND

Question. DOD is requesting a modification of section 748 which would allow receipts from the sale of defense articles from stock not to be replaced (free assets) to accrue to the Special Defense Acquisition Fund. Presently these free asset receipts are returned to the U.S. Treasury as required by section 748. In addition, DOD proposes a new provision that would allow the obligation of funds from the SDAF in fiscal year 1983. A similar proposition was forwarded in the general supplemental which the Subcommittee rejected. The Subcommittee recommended this matter be handled in the Foreign Assistance Subcommittee, and to use direct appropriations. In the foreign aid chapter of the general supplemental, the conferees agreed to an appropriation of $125 million for the SDAF. Therefore, it appears the Defense Subcommittee does not have to deal with it.

What is the fund balance as of this time, and what are the sources of these funds?

Mr. Morgan. The fund balance, which is derived from recoupments of nonrecurring research and development costs and production costs and from asset use charges, was $162.9 million as of the end of July 1982.

Question. What will be the fund balance as of the end of fiscal year 1982?

Mr. Morgan. We estimate that the fund balance will be $250 million.

SECTION 755—DEFENSE PRODUCTION GUARANTEES

Question. The department has requested deletion of section 775 which provides authority to guarantee loans under the Defense Production Act of 1950. Your statement indicates that the Department does not plan to use this authority in fiscal year 1983. Would there be any advantage in leaving authority on the books in the event that the Department found a need for it during the course of the fiscal year? How was the authority used in fiscal year 1982?

Mr. Morgan. The authority has not yet been used in fiscal year 1982, but the Department anticipates using the loan guarantee authority for the following purposes. Up to $5 million will be used for a project to modernize open die forging capacity. Up to $20 million, plus any unutilized portion of the foregoing $5 million, will be used for the Guayule rubber project. This is a project to develop a demestic natural rubber production capability. Insofar as any use of the authority in fiscal year 1983 is concerned, if the authority to guarantee loans is continued for fiscal year 1983, the Department of Defense would carefully evaluate any possible uses of the authority to ensure that it would be advantageous to use it. This evaluation would take into account advantages to the Department and the fact that during a review of loan guarantee programs generally by the Administraton, it was determined that the authority should not be sought for fiscal year 1983.

SECTION 761—AUDIT RESOLUTION

Question. Section 761 requires DOD to resolve all audits within six months after completion of the initial report during fiscal year 1982. This section has been proposed by the Department of Defense for deletion. If the Committee updates the General Provision for fiscal year 1983, do you anticipate there will be any adverse impact? If the Committee deletes the provision as requested, is there any DOD policy in effect limiting the time within which an audit must be resolved?

Mr. Morgan. Current Department of Defense policy contained in DOD Directive 5000.41, requires audits to be resolved within six months. Therefore, there would be no adverse impact on the Department if this provision is retained; however, the Department of Defense does not consider that retention of this provision is necessary as it duplicates requirements already existing in the Department.

SECTIONS 765 AND 766—OVERSEAS TEACHERS PAY

Question. Sections 765 and 766 would set school teacher salaries at the the same percentage as the overall average percentage increase in the General Schedule rates of basic pay which become effective during the current fiscal year under section 5305 of title 5, United States Code. The effect of these two proposed sections is to change substantive provisions of existing law, Public Law 86-81, The Defense Department Overseas Teachers Pay and Personnel Practices Act. Since similar provisions were deleted on the House floor during debate on the fiscal year 1982 Defense bill, why are you requesting these provisions in the Defense bill? Why not go to the proper legislative committees?

Mr. Morgan. It is the intent of the Administration that all Federal employees should be treated equally with respect to salary increases for fiscal year 1983. Since a permanent change in the method of compensation for overseas teachers was not sought, a legislative proposal for the consideration of the legislative committee was not proposed.

SECTION 767—DEMILITARIZATION OF WEAPONS

Question. The Defense bill has annually carried a General Provision prohibiting demilitarization of small fire arms. This year the Department is requesting that the words "small firearms" be deleted and in their place the words "serviceable surplus non-automatic small caliber rifles" be substituted. Is the only change that the Department could demilitarize automatic weapons which it does not provide to the public anyway?

Mr. Morgan. The language which has appeared for the past several years prohibited the demilitarization of all small arms, including uneconomically repairable machine guns and other automatic weapons whose sale is prohibited to the public. The amended language would remove this broad restriction without detriment to the sale of surplus non-automatic small caliber rifles to authorized purchasers.

SECTION 780—WICHITA WAGE BOARD EMPLOYEES

Question. The fiscal year 1982 Act included the provision to correct a temporary pay inequity for wage board employees in Wichita, Kansas. If the Committee agrees to delete this provision as is proposed, would there be any adverse impact on the pay of these Wichita personnel either now or in the future?

Mr. Morgan. If the provision is deleted, Wichita wage board employees will have their pay determined in the same manner as other wage board employees. Accordingly, the Department does not consider that there will be any adverse impact on the pay of such employees.

SECTION 785—GASOLINE MILEAGE RESTRICTION

Question. The budget proposes to delete section 785 of last year's bill which prohibited procurement of passenger automobiles with an EPA estimated mileage of less than 22 miles per gallon. Has this provision created any problems for the Department during the current year? What will be the Department's policy on the gasoline mileage of passenger automobiles if this provision is deleted in fiscal year 1983? Why does the Department propose to delete this provision?

Mr. Morgan. We have had no problems with this provision and we proposed deletion of this provision, which was generally added to all appropriation bills for fiscal year 1982, because we believe that it is an unnecessary provision insofar as the Department of Defense is concerned.

In fiscal year 1983, the Department will follow the policy in Executive Order 12375, dated August 4, 1982. Under the order, the Department is required to purchase passenger automobiles to achieve a fleet average fuel economy standard that is not less than the average fuel economy standard for automobiles set in the Motor Vehicle Information and Cost Saving Act. For fiscal year 1983, this will be an average of not less than 26 miles per gallon.

SECTION 786—EXECUTIVE SCHEDULE POSITIONS

Question. Last year, the House added a provision on the floor which limits to 35 the number of executive schedule positions allowed in the Department of Defense. At the time the Department had submitted a request to the Congress to increase the number of these employees. How many employees does the Department currently have authorized? Is legislation still pending for the Congress to increase this number?

Mr. Morgan. The Department of Defense currently has 30 Executive Level positions authorized under sections 5312–5316 of title 5, United States Code. The legislation to increase by 6 the number of Executive Level positions for the Department of Defense is still pending in Congress.

RESTRICTION ON THE PURCHASE OF COAL OR COKE

Question. The Subcommittee placed a provision in the general supplemental which prohibits DOD from purchasing coal or coke from foreign nations for use at U.S. Defense facilities in Europe when coal from the U.S. is available. Does the DOD see any problems with this provision, and would you object to this provision being included in the fiscal year 1983 bill. If DOD does object, be specific in explaining the objections.

Mr. Morgan. The Department does object to the inclusion of the provision in the fiscal year 1983 Act. We believe that, because of a change in the evaluation factors relating to coal purchases, it is not necessary to have the provision repeated in order for U.S. coal purchasers to be competitive. We believe that the provisions of this section have a negative effect on competition and that restrictions of this type tend to increase defense costs. Lastly, we believe that the effect of foreign coal purchases on the domestic coal industry has been overstated and that retention of the restriction might not be in the best interests of the coal industry.

With respect to the necessity for the provision, it is true that last year the U.S. coal industry lost approximately 55 percent of DOD coal procurements to foreign suppliers. This was largely due to the evaluation factors used in assessing bids. Last year, because the Department, in keeping with U.S. maritime policy, shipped all coal to Europe in U.S. flag ships, we used U.S. flag shipping costs to estimate the delivered cost of coal. Last year, these rates were $34.33 per ton as opposed to $15 per ton for foreign flag ships. This year, we will use the foreign flag shipping rates which have fallen to $10.56 per ton because of the depressed world-wide coal market. If foreign shipping rates had been used last year, U.S. producers would have received 93 percent of all DOD coal purchases, as opposed to the 45 percent that they received because of the use of U.S. shipping rates. Therefore, we believe that the change of evaluation factors makes it unnecessary to repeat the provision for fiscal year 1983.

This provision also tends to restrict competition which is contrary to general policy concerning DOD procurements. Restriction of DOD coal purchases to U.S. sources is, we believe, contrary to the intent of Congress in enacting the Trade Agreement Act. With respect to competition, historically, we receive bids from only two U.S. coal suppliers. The restriction, if repeated, will eliminate foreign suppliers as potential sources, thus eliminating potential competitive sources. Generally, restricting competition is considered to drive prices up.

Finally, we believe that the impact of the use of foreign coal by the DOD is not as great as has been stated and that, from the standpoint of the U.S. coal industry, the provision could do more harm than good to the industry itself.

Earlier this year, in support of this provision, it was indicated that 800 jobs out of a total of 3,000 or 27 percent of the jobs in the industry would be lost if the DOD continued to allow European coal producers to compete for DOD contracts. The Department disagrees with these estimates. The Department purchased only 117,000 tons of European coke last year which is equivalent to only

2 percent of the 5 million tons of coal mined in the U.S. At the worst, therefore, if DOD were to purchase European coke as we have in the past it would have only a 2 percent, rather than a 27 percent, impact on the U.S. coal industry job level.

In addition, we do not really believe that the restriction is in the long-term interest of the U.S. coal industry as a whole. For instance, last year U.S. coal producers exported more than 100 million tons of coal, a significant portion of which was bought by European customers. Less than ½ of one percent of the coal exports were for U.S. bases in Europe. Because this restriction has the effect of overriding U.S. agreements with foreign countries we believe that, because of the current state of the world economy, protectionist pressures are likely to build up overseas, with the result that restictions such as that contained in the Supplemental Appropriation Act for fiscal year 1982 are likely to result in comparable restrictions overseas. In the long run, this could result in a far more significant loss to the U.S. coal industry than any immediate benefit it might conceivably gain from continuation of restrictions on DOD purchases of European coke.

O&M, NAVY LEASAT PROGRAM

QUESTION. Last year, the Committee included appropriation language for the Operation and Maintenance, Navy appropriation directing that not less than $59 million was available for the LEASAT Program. This year the Department is requesting that the same language be continued but without specifying a dollar amount. Is the language necessary or could the Department use O&M funds for this effort without its inclusion in the fiscal year 1983 bill? If the Committee were to include the same language this year, what is the appropriate dollar amount which should be specified?

Mr. MORGAN. Because the Aide Memoire of January 5, 1981, calls for payments in advance of receipt of services, language permitting such payments is necessary for the Department to make payments under the Aide Memoire. If the Committee were not to include the general language granting the authority which the department has requested, the appropriate dollar amount would be not less than $55 million.

ARMY CONVENTIONAL AMMUNITION WORKING CAPITAL AMMUNITION FUND

QUESTION. The Department is requesting $1 million in the fiscal year 1983 Budget for the Army Conventional Ammunition Working Capital Fund. Since no funding request was included last year, specific language providing the appropriation is included this year in the Department's request. Please provide a brief description of the purpose of this working capital fund. Specifically, what is the $1 million required for in fiscal year 1983? When was the last appropriation made for this account and for what amount?

Mr. MORGAN. This fund is to be used to simplify the accounting system for procurement of conventional ammunition. It is used to procure munitions for all the Services and other customers. It will provide for payment of load, assemble and pack operations, component purchases for metal parts and explosive materials, quality assurance and rework effort.

Because the fund was established in 1982, no funds were requested for the fund for fiscal year 1982 and there have been no prior appropriations to the fund.

For fiscal year 1983, the funds requested will be applied to procurement of nitroguanide, an ingredient of triple base propellant used in extended range artillery ammunition propelling charges and tank ammunition propellants.

[Clerk's note.—End of questions submitted by Mr. Addabbo.]

Mr. Addabbo. There being no further business, the committee stands in recess until 9:30 tomorrow morning.

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